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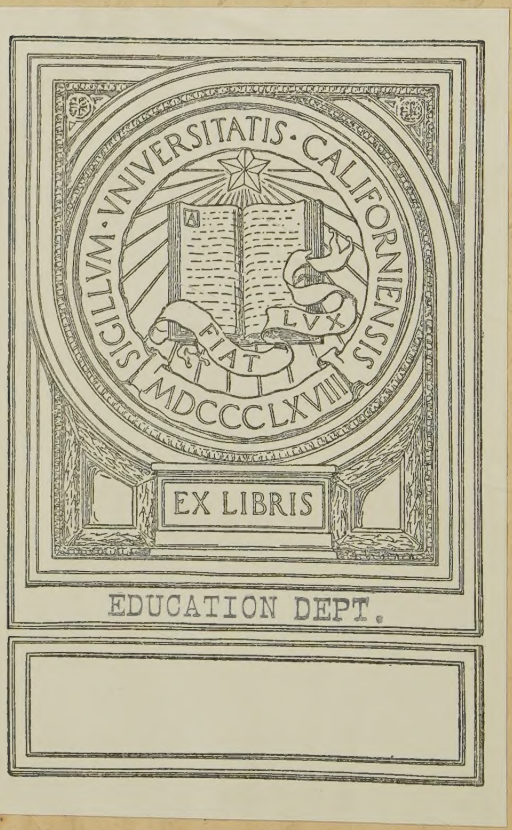
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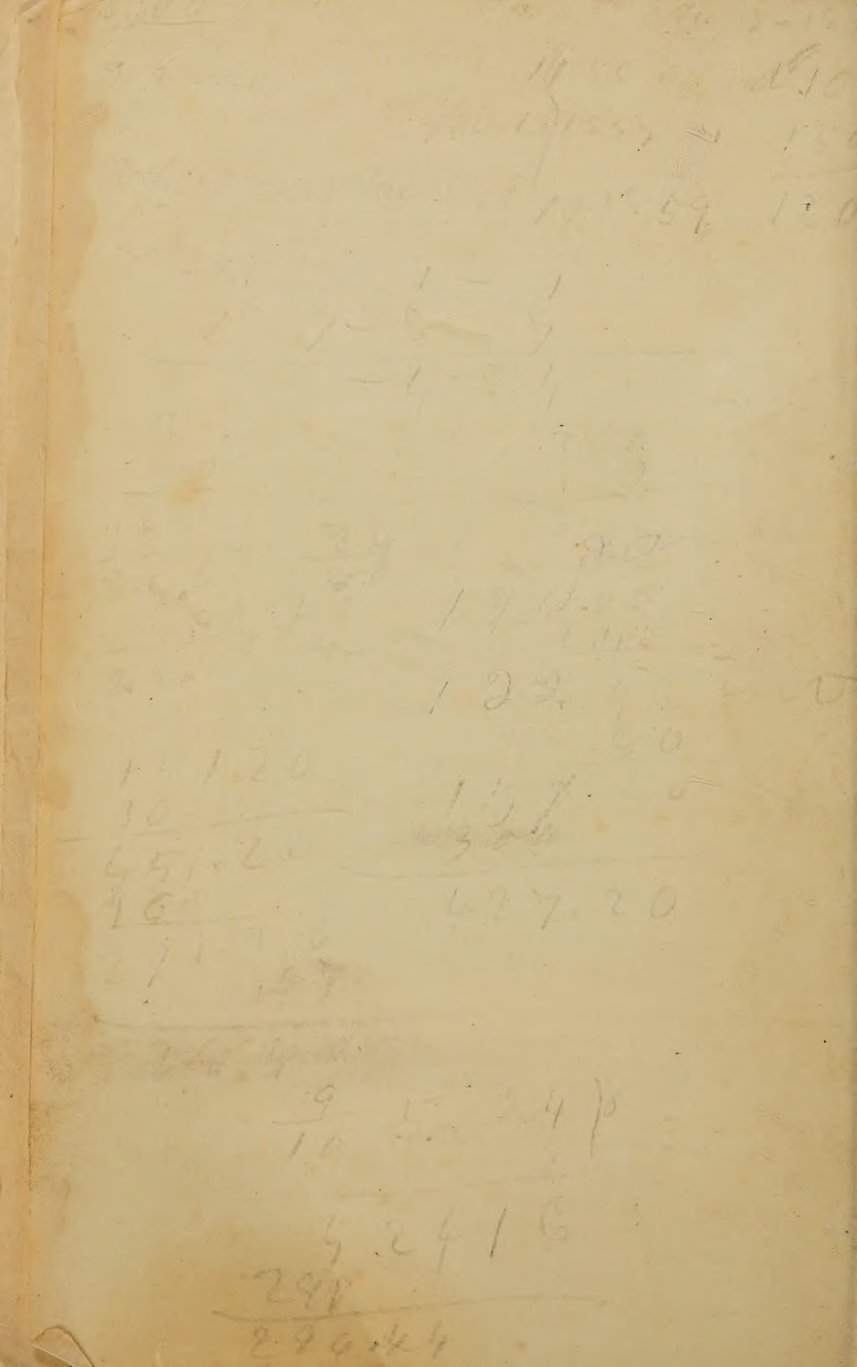

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PREFACE.

ALTHOUGH, from its practical importance, GEOGRAPHY has always formed a branch of common education, yet it is a fact to be neither gainsayed nor concealed, that our youth, after having spent years in trying to master this science, know little or nothing respecting either the earth's important localities or its prominent physical characteristics. The cause is plain; it is clearly traceable to the character of the geographical text-books and school-maps now in use,—from the unphilosophical arrangement and defective systems of which it is not to be expected that well-digested views can be imparted, or that any enduring knowledge of the subject as a whole can be impressed on the mind. A few isolated facts may, it is true, be here and there gleaned. Hard labor may enable the pupil to learn the government of a country, the population of a city, the length of a river, and other details equally dry and repulsive. But Geography is something more than a mere collection of detached facts: it is a science founded on fixed principles, which underlie its details, and which must be thoroughly understood before the latter can be profitably learned. Its province is the whole Earth; and only when the characteristics of the Earth as a whole, the arrangement and distribution of its elements, the relations subsisting between its various parts, the agencies constantly at work on its surface, and the phenomena peculiar to it both as an individual planet and as a member of the solar system—only when these are intelligibly fixed in the mind as a great and enduring foundation, can the superstructure of facts and statistics be properly reared.

With the view of aiding the pupil in the acquisition of this important science, and of relieving the instructor of a vast amount of labor in imparting it, with the view of removing all difficulties and bringing about a radical and long needed reform in the mode of teaching Geography, the present volume (as well as the "Intermediate" and the "Primary" which have preceded it) is offered to the public. On the two works just alluded to, an intelligent community have already pronounced their verdict,—a verdict so favorable and flattering that this Highest Number, which completes the series and embodies the same principles and plan on an extended scale, is offered with less apprehension for their examination and use.

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It is claimed for this "High-School Geography"—

1. That it is arranged on the true inductive system, commencing with elementary principles, and proceeding by natural and gradual advances from deduction to deduction and from step to step until the whole ground is covered.

2. The arrangement is clear and practical, enabling the pupil to observe the relations between different parts of the subject, to know, at every point, where he is standing, and constantly to keep in view the end proposed.

3. It is interesting. Details are by no means sacrificed, but they are interspersed with noteworthy facts relating to the earth and its inhabitants, which legitimately belong to the subject, though not generally found in text-books, and which are calculated to inspire the student with a fondness for the study.

4. It facilitates the teacher's task, by neither requiring reference to Tables nor asking questions which the learner cannot answer without aid.

5. It contains as many facts as can be advantageously remembered, while it eschews an embarrassing multiplicity that would be forgotten as soon as learned.

6. It embraces a system of Reviews in which the questions, presented in new forms, require the pupil to look at the subject in different lights, to think for himself, and to compare and digest the various facts he has learned.

7. It embodies the results of all new discoveries in Physical Geography, etc., the latest explorations of travelers and navigators, and takes its statistics from the most recent and reliable official records.

These are a few of the prominent features of the system here set forth. There are others hardly less important, but want of space prevents their enumeration. It is believed that the accompanying Maps also possess superior claims to consideration; that their design greatly facilitates the pupil's labors, and that their execution is free from those perplexing errors and inconsistencies with the text, which are a fruitful source of annoyance in the most popular atlases of the day. Further discussion of these points, however, and of the other advantages which it is claimed that these Maps possess, must be left for the Preface of the Atlas, to which the reader is respectfully referred.

The present volume is divided into three parts, to which is added an Appendix, containing the "RULES FOR DESCRIBING THE NATURAL DIVISIONS OF LAND AND OF WATER, INCLUDING DEFINITION OF TERMS, EXAMPLES, ETC.," together with "DIRECTIONS FOR MEMORIZING THE CONTENTS OF A MAP."

PART I. embraces Descriptive Geography and exercises on the Maps in the accompanying Atlas. PART II. treats of Mathematical Geography. PART III. is an outline of Physical Geography.

NEW YORK, *April*, 1856.

CORNELL'S

HIGH SCHOOL GEOGRAPHY.

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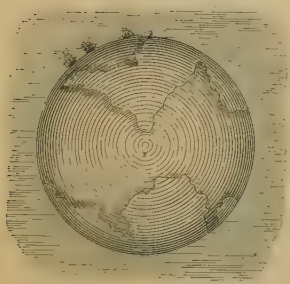
PART I.

DESCRIPTIVE GEOGRAPHY.

GENERAL DEFINITIONS

LESSON I.

FORM AND MOTIONS OF THE EARTH.



What is the earth?

The earth is that planet, in the solar system, which we inhabit.

What is the form of the earth?

The form of the earth is that of an oblate spheroid, or *nearly* that of a globe or sphere.

What facts afford proof that the earth is a spherical body?

There are many facts that afford evidence of the spherical form of the earth, among which are the following:

1st. That, if a mountain or any other elevation be ascended, a much greater extent of the earth's surface becomes visible;

2d. That, persons on shipboard, as they near the land, see first the tops of mountains, and, on approaching nearer, their bases;

3d. That, to a person on land, the highest parts of a ship are seen first in the distance, and, as she approaches nearer, the lower part, or hull;

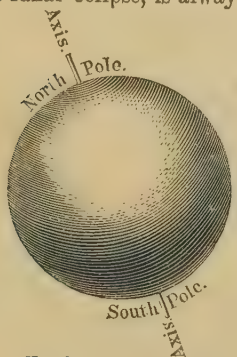
4th. That, in traveling to any considerable distance, either north or south, new stars come into view in the direction in

which the traveler is advancing, while others gradually disappear in the direction from which he is receding;

5th. That, persons have sailed constantly in one direction, either east or west (as nearly as the different bodies of land on the globe will admit), and returned to the place from which they first set out;

6th. That, in cutting for a canal it is found that allowance must be made for a dip of about eight inches in a mile, in order to keep the water of a uniform depth throughout;

7th. That, the shadow the earth casts upon the moon, during a lunar eclipse, is always circular.



How many motions has the earth?

Two; a diurnal, or daily motion, on its axis; and an annual, or yearly motion, round the sun.

What is the Earth's Axis?

It is a straight line which we *imagine* to pass through the centre of the earth.

Which way does the earth turn on its axis?

From west to east.

How long is it in making a complete revolution?

Twenty-four hours.

What does this revolution cause?

The succession of day and night.

How long is the earth in making a complete revolution round the sun?

A year.

What does the earth's revolution round the sun occasion?

It occasions, in part, the diversity of the seasons.

What is the distance round the earth in a great circle?

About twenty-five thousand miles.

What is this distance called?

The circumference of the earth.

What is the distance through the centre of the earth at the equator?

Seven thousand nine hundred and twenty-five miles.

What is this distance called?

The equatorial diameter of the earth.

What is the distance through the centre of the earth, from one pole to the other?

About seven thousand eight hundred and ninety-nine miles.

What is this distance called?

The polar diameter of the earth.

LESSON II.

EXTENT OF THE EARTH'S SURFACE, ETC.

How many square miles is the earth's surface supposed to contain?

About two hundred millions.

What portion of this is land?

About one-fourth, or fifty millions.

What portion water?

About three-fourths, or one hundred and fifty millions.

How is the land distributed?

There is about three times as much land in the Northern Hemisphere as in the Southern; and two and a half times as much in the Eastern as in the Western Hemisphere.

How is the land naturally divided?

It is divided into different parts, of various forms, to which geographers have given the names of continent, island, peninsula, isthmus, cape, promontory, mountain, hill, plain, and valley.

What are these divisions styled?

The natural or physical divisions of the *land* area of the earth's surface.

How is the water naturally divided?

The water also is divided into parts, variously formed, which geographers have designated by the names ocean, sea, gulf, bay, strait, passage, sound, channel, lake, and river.

What are these divisions called?

The natural or physical divisions of the *water* area of the earth's surface.

Why are these divisions styled *natural*?

Because they have not been made by man, but have been formed by nature.

What divisions of the earth's surface have been made by man?

Empires, kingdoms, states, cities, towns, villages, &c.

What are these divisions called?

Political divisions.

By what means is the earth's surface represented?

By means of maps and artificial globes.

What are maps?

Maps are drawings which represent, on a plane, the whole, or any part, of the earth's surface.

What are artificial globes?

Artificial globes are balls of wood, or other material, on whose exterior the surface of the earth is delineated or represented.

What lines are usually drawn on maps?

The equator, meridians, parallels, the tropics, and the polar circles.

Do any of these lines actually exist, or, in other words, can any of them be found on the surface of the earth?

There are no such lines on the earth.

Why then are they drawn upon maps?

Because they greatly facilitate our obtaining a knowledge of much that is important for us to know respecting the earth.

What do we reckon from the equator?

Latitude; and this may be either north or south.

What do we reckon from meridians?

Longitude; and this may be either east or west.

Of what use are the tropics and polar circles?

They serve to designate the respective limits of the several zones of the earth.

LESSON III.

ZONES, ETC.

How many zones are there?

Five: two frigid zones, two temperate, and one torrid zone.

How many distinct kinds of climate do these five zones represent?

Three: the coldest, the hottest, and the medium climate.

What does the term climate signify?

It signifies the prevailing character of the weather at any place.

Where, generally speaking, are the hottest countries situated?

In the torrid zone.

Where are the coldest countries situated?

In the frigid zones.

Where are the countries situated that generally possess a medium climate?

In the temperate zones.

Do the heat and cold of a country depend *solely* on its situation in one or other of these zones?

No; there are various other causes that affect the climate of a country, and regulate its degree of heat or cold.

What are the chief causes that affect or determine the climate of any place?

The chief causes are:—1st, the latitude of the place; 2d, the height of the place above the level of the sea; 3d, the position and direction of the mountain chains; 4th, its proximity to, or remoteness from, the sea; 5th, the slope of the country, or the aspect it presents to the sun's course; 6th, the geological character of the soil; 7th, the degree of cultivation which it has received, and the density of the population collected upon it; 8th, the prevalent winds; 9th, the annual quantity of rain that falls.

These causes, acting together, or separately, determine the character of the climate of a country.

What is the breadth of the torrid zone?

The breadth of the torrid zone is forty-seven degrees.

What is the breadth of the temperate zones?

Forty-three degrees each.

What is the breadth of the frigid zones?

Twenty-three and one-half degrees each.

Into how many branches is the science of Geography divided?

It is divided into three branches; viz., Natural, or Physical, Political, and Mathematical, or Astronomical.

What is Physical Geography?

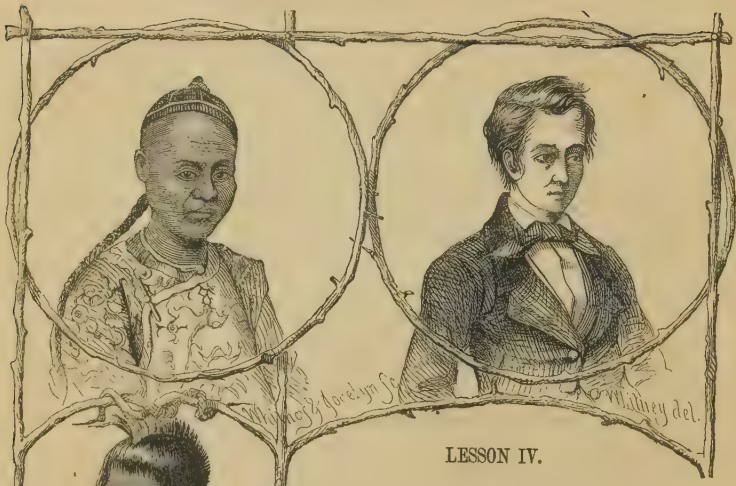
Physical Geography is that branch of science which includes a description of the solid and fluid parts of the earth's surface; of the atmosphere which surrounds it, and of all animal and vegetable life.

What is Political Geography?

Political Geography is that branch of science which includes a description of the various countries on the earth's surface, their government, people, language, religion, and customs.

What is Mathematical Geography?

Mathematical Geography is that branch of science which includes a description of the earth as a planet, treating of its form, its magnitude, its motion, and of the various imaginary lines upon its surface.



LESSON IV.

THE EARTH'S INHABITANTS.

How many inhabitants is the earth supposed to contain?

About one billion.

Into how many distinct races, according to the form of the skull and the color of the skin, are the inhabitants of the earth divided?

Into five distinct races.

Name them, and state the probable number of each.

NAMES.	ESTIMATED NUMBER.
Caucasian, or European,	420,000,000
Mongolian, or Asiatic,	460,000,000
American, or Indian,	10,000,000
African, or Negro,	70,000,000
Malay,	40,000,000

What nations does the Caucasian race include?

The Caucasian race includes almost all the nations of Europe, and their descendants in America; also the Hindoos, Persians and Arabians in Asia, and the Abyssinians, Egyptians and Moors in Africa.

What nations does the Mongolian race include?

The Mongolian race includes the Siberian tribes, the Chinese, Japanese, and Indo-Chinese nations in Asia, the Finns, Laplanders, Turks, and Hungarians of Europe, and the Esquimaux of North America.

What tribes are included in the American, or Indian race?

The American race includes all the tribes of America except the Esquimaux.

What people are included in the African race?

The African, or Negro race, includes all the aboriginal tribes of Africa (south of Abyssinia and the Great Desert), together with those of Australia, New Guinea, and New Caledonia.

What tribes does the Malay race include?

The Malay race includes the tribes inhabiting the islands of Oceania (except those before mentioned), together with the native tribes of the Malay Peninsula.

By what other names are these races distinguished?

The Caucasian is called the white, the Mongolian the yellow, the American the copper-colored, or red, the African the black, and the Malay the brown race.

For what is the Caucasian race distinguished?

For intellectual attainments, and high moral endowments.

What are some of the physical characteristics of this race?

The skin of the Caucasian race is generally fair, the hair fine and long, the skull large and beautifully shaped, the forehead full and elevated, the features regular, and the form symmetrical.

What are the physical characteristics of the Mongolian race?

The skin of the Mongolian race is generally of a sallow, or olive tint; the hair is long, black, straight, and stiff; the head somewhat square, the forehead low, the cheek-bones broad and flat, the nose short, the eyes small and obliquely set.

What are the physical characteristics of the American race?

The skin of the American, or Indian race, is a sort of reddish brown, or copper color; the hair long, black and straight; the skull small, the eyes dark and deep set, the cheek-bones high and prominent, the nose aquiline, the forehead receding, and the mouth large.

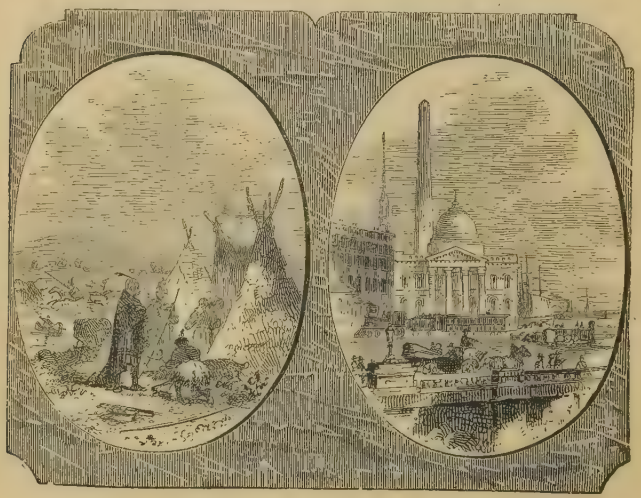
What are the physical characteristics of the African race?

The skin of the African race is jet black, the hair woolly

head long and narrow, forehead low, eyes large and prominent, mouth large, lips thick, nose broad and flat, cheek-bones high, and the jaws prominent.

What are the physical characteristics of the Malay race?

The skin of the Malay race is tawny, or dark brown; the hair coarse, lank, and black; forehead low and broad, mouth large, nose short and broad, and the eyes (like those of the Mongolian race) obliquely set.



LESSON V.

THE EARTH'S INHABITANTS—(*Continued*).

Into how many distinct classes may mankind be divided as it regards modes of life?

Into three distinct classes; viz., roving tribes, nomadic pastoral tribes, and settled, or fixed nations.

What do the roving tribes include?

All those tribes that subsist by hunting and fishing, but rove about without any fixed habitation; such are the Esquimaux, and many of the Indians of America.

What is meant by nomadic pastoral tribes?

This term is intended to include those nations or tribes that

have no settled residence, but live in movable tents, and, with their herds and flocks, wander from place to place; such are the Laplanders in Europe, the Arabs, and many of the Tartar tribes in Asia.

What does the term settled, or fixed nations, comprehend?

It comprehends all those nations upon the earth that have permanent habitations, and dwell in cities, towns, villages, &c.; such are the nations of Europe, and their descendants in America; and the Chinese, Japanese, Hindoos, Persians, Egyptians, &c.

Into how many classes is mankind divided as it respects social condition?

Into four classes; viz., enlightened, civilized, half-civilized, and savage, or barbarous.

What nations are denominated enlightened?

Those nations that have made the greatest attainments in the arts and sciences, and who have displayed most skill and industry in agriculture, commerce, and manufactures.

What nations are called civilized?

Those that have made considerable progress in the arts and sciences, and manifested some ingenuity and industry in agriculture, commerce, and manufactures; but not equal to the class called enlightened.

What nations are styled half-civilized?

Those whose knowledge of the arts, sciences, and agriculture is very imperfect; whose commerce is exceedingly limited; and whose manufactures are few, and of an inferior order.

What nations are called savage, or barbarous?

Those that are not acquainted with the arts and sciences, and do not show their skill or industry, either in agriculture, commerce, or manufactures, but turn their attention almost wholly to hunting and fishing for a mere subsistence.

PREVAILING SYSTEMS OF RELIGION AMONG MANKIND.

Mention the prevailing systems of religion among mankind.

NAMES.	PROBABLE NUMBER.
Jewish,	4,000,000
Christian,	240,000,000
Pagan,	650,000,000
Mohammedan,	100,000,000.

What two distinct classes do these include?

They include, 1st, those who worship one God; and, 2d, those who, instead of, or besides Him, worship supposed deities of various kinds. The former embrace the Jews, Christians, and Mohammedans; the latter, the Pagans, or Heathens.

What is the peculiar characteristic of each?

The Jewish faith recognizes the Old Testament as the highest authority in matters of religion, but not the New.

The Christian faith recognizes both the Old and the New Testament as authority in all religious matters.

The Pagan faith does not recognize the God of the Bible, but substitutes a variety of images, such as birds, beasts, reptiles, &c.

The Mohammedan faith recognizes one God, and Mohammed as his "last and greatest prophet," who substituted for the Bible a book called the Koran.

DIFFERENCE OF LANGUAGE AMONG MANKIND.

How many distinct languages are spoken in the world?

Eight hundred and sixty.

How many branches, or dialects, are derived from these?

About five thousand.

Of these languages, how many belong to America?

Four hundred and twenty three.

How many to Europe?

Fifty-three.

How many to Asia?

One hundred and fifty-three.

How many to Africa?

One hundred and fourteen.

How many to Oceania?

One hundred and seventeen.

What language is spoken by the greatest number of people?

The Chinese.

What one is the most widely spread?

The English.

What are the chief cultivated languages of Europe?

The French, Italian, Spanish, English and German.

What are the chief ones of Asia?

The Chinese, the Arabic, the Persian and the Sanscrit.

LESSON VI.

FORMS OF GOVERNMENT AMONG MANKIND.

What is government?

Government (in a geographical sense) is that form of fundamental rules and principles by which a nation, or country, is governed.

How many distinct forms, or modes of government, are there?

There are three distinct forms of government; viz., monarchical, aristocratical and democratical.

To what may we trace the origin of all states which are under one or other of these forms of government?

Either to conquest, or from a social compact, by which a constitution is framed for the government of the state and the welfare of its subjects.

What is the highest power in any form of government styled?

The supreme power.

Of what does the supreme power consist?

It consists of three parts; viz., the legislative, which enacts laws; the judicial, which determines the application of the law in individual cases; and the executive, which puts the laws in execution.

What is a monarchical form of government?

A form of government which gives the supreme power to one person, who may be styled king, queen, emperor, sultan, &c.

What is a country under such a form of government called?

It is called a monarchy; of which there are two kinds—viz., absolute, or despotic, and limited.

What is an absolute, or despotic monarchy?

An absolute monarchy is a government which vests the supreme power without limit in a single person, whose will is law, and from whose decree there is no appeal.

What is a limited monarchy?

A limited monarchy is a government which vests the supreme power in a single person, but limits him in its exercise by a constitution, or a council appointed for that purpose.

By what other names are monarchies called?

Kingdoms, empires, grand duchies, duchies, principalities, &c.

What is an aristocratical form of government?

A form of government which places the supreme power in the hands of a few privileged men, who are generally styled nobles, or chiefs.

What is a democratical form of government?

A form of government in which the supreme power is placed in the hands of rulers chosen by, and from the whole body of the people, or by their representatives assembled in a congress, or national assembly.

What is a republic?

A republic is a government in which the supreme power is vested in representatives chosen by the people. There are two kinds of republics; viz., an aristocracy and a democracy: the former, a republican state under an aristocratical form of government, and the latter, a republican state under a democratical form of government.

What is a union of separate democratic republics styled?

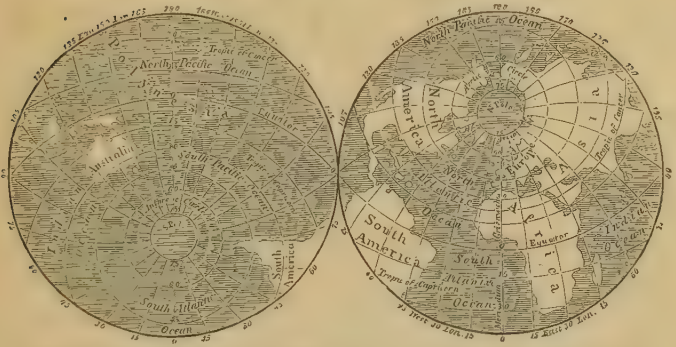
A union of separate democratic republics is styled a federal democratic republic; such is the political title of the United States.

With what forms of government is aristocracy frequently found combined?

With monarchy and democracy. In this case, the king or queen represents the monarchy; the nobles, or lords, the aristocracy; and the commons, or representatives (who are chosen by the people), the democracy. This is the character of the government of Great Britain, and other limited monarchies.

REMARK TO THE TEACHER.—As this book may be placed in the hands of pupils who have not studied the Second Number of this Series, or who may be deficient as it respects the definition of geographical terms, we have given, for their use, in the Appendix to this work, a complete set of geographical definitions, together with "RULES FOR DESCRIBING THE NATURAL DIVISIONS OF LAND AND OF WATER," and "DIRECTIONS FOR MEMORIZING THE CONTENTS OF A MAP," to which they had better refer before proceeding further.

PROPORTION OF LAND AND WATER ON THE GLOBE



Suppose the surface of the globe to contain 1000 parts; of these, 266 are land, and 734 are water.

THE WORLD.

Area in square miles, 200,000,000. Population, 1,000,000,000.

LESSON VII.

How divided.—The land area of the world is divided into three great portions, which are completely separated from each other by the great ocean.

These are, the Old World, which includes the countries of Europe, Asia and Africa; the New World, which embraces North and South America; and the Maritime World, or Oceania, which comprehends Polynesia, Australasia and Malaysia.

Continents.—These three naturally divided portions of the globe include three continents; the Western, the Eastern and the South-eastern, or Australian Continent. The first two embrace the grand divisions of North America, South America, Europe, Asia and Africa; while the Australian Continent is included in the grand division of Oceania.

Rank.—If we arrange the grand divisions of the earth according to the square miles of extent in each, they rank thus: Asia first, Africa second, North America third, South America fourth, Oceania fifth, and Europe sixth; but if according to population, they rank thus: Asia first, Europe second, Africa third, North America fourth, Oceania fifth, and South America sixth.

Subdivisions.—The grand divisions of the earth are subdivided into various empires, kingdoms, states, cities, towns, &c.

Scattered portions of the earth's surface.—There are in either hemisphere some scattered masses of land, which are situated beyond the proper limits of any of the great divisions of the world's surface, and which make a nearer approach toward the poles than is the case with either of the continents.

Amongst these is the Archipelago of Spitzbergen, situated north of Europe in the Arctic Ocean, between the parallels of 77° and 81° north latitude, and the meridians of 10° and 24° east longitude, together with the various tracts of land recently discovered in the Antarctic, or Southern Ocean.

Of the latter are Graham Land and Trinity Land, which, with several adjacent islands, are included under the general name of New South Shetland Isles. They lie between the parallels of 61° and 68° south, and the meridians of 53° and 68° west. To the east of these are the group of the South Orkneys and Sandwich Land. Southward of this region, Captain Weddell advanced in 1823 through an open sea to as high a latitude as 74° 15′ south.

A tract of coast (called Enderby's Land) has been discovered lying immediately under the Antarctic Circle, between the meridians of 46° and 54° east. Another tract (called the Antarctic Continent) was discovered in 1840 by the United States' Exploring Expedition, under the command of Lieutenant Charles Wilkes, in about the same latitude as Enderby's Land, but further east, between the meridians of 95° and 165° east longitude.

Eastward of the Antarctic Continent, and to the southward of New Zealand, an extensive tract (called South Victoria Land) was discovered in 1841 by Sir James Ross, between the parallels of 70° and 78°. It extends to within 830 miles of the South pole, which is the furthest advance that has been made in this direction.

All these regions are barren and desolate, exhibiting a succession of ice-bound coasts, destitute of human inhabitants.*

* See "Chart of the Physical Diagram of the Earth," in the Atlas, which accompanies this book.

Greenland, and the other portions of land in the Arctic regions of the Western Hemisphere, will be described under the head of North America.

THE OCEAN.

That vast body of water which surrounds the dry land, and penetrates its coast, covering nearly three-fourths of the entire surface of the globe, is termed the ocean.

Depth.—No certain conclusions have been formed with respect to the depth of the ocean; all we know is, that it varies from a few feet to several miles. About 900 miles west of St. Helena, a line, nearly 5¼ miles in length, was let down without finding bottom. From a recent official report of a naval officer, we learn that bottom has been found, north of the Bermuda Isles, at the enormous depth of 6 statute miles.

Color and saltness.—The color of the ocean is generally a sort of bluish green, but, in some parts, local causes furnish a variety of tints. The water of the ocean is salt, while, with few exceptions, the waters of lakes and rivers are mild, fresh, and well adapted for domestic purposes. The density of sea-water depends upon the quantity of salt it contains; the usual proportion is a little above three per cent., though it varies in different places.

Tides.—As the earth revolves, successions of tidal waves are diffused over the entire surface of the ocean, washing the shores of the continents and islands that rise above its surface. Every twelve hours in the day the ocean rises to its greatest height, and remains stationary for about six minutes; this is called *high water*. After this, it ebbs, or falls, for about six hours, and then remains as before described; this is called *low water*. There is, therefore, high and low water on every tidal shore in the world twice in every twenty-four hours.

Height of the tides.—In the centre of the ocean, where the tides are occasioned by the action of the sun and moon only, they are very small; but in some parts, owing to local circumstances, the tides vary from 10 to 60 feet.

Other characteristics.—The bed of the ocean, like the surface of the land, is diversified by plains and mountains, table-lands and valleys, many of which are covered with a variety of marine plants, and teeming with life. This vast body of water is also the abode of an immense number of fish, which afford means of support to a large portion of the human race. It is also the great highway of commerce, and the unfailing reservoir from which all the other bodies of water on the earth are supplied. It is from the vapors exhaled

from it that the atmosphere is furnished with the waters that descend in the form of rain.

By this means springs and lakes are supplied, which give rise to innumerable rivers, &c.

There is, strictly speaking, but *one* ocean; for convenience' sake, however, geographers divide it into five great basins. Each of these basins, or divisions, is styled an ocean; hence, we have five oceans. The limits of these oceans, where they are connected together, have not, as yet, been accurately defined; no precise boundary being pointed out by nature, and no *universally* received boundary lines designated by man.

NORTH AMERICA.

LESSON VIII.

REMARK TO THE TEACHER.—As we have prepared "MAP STUDIES, systematically arranged," in other parts of this work, for all the most important divisions of North America (to which are assigned separate maps in the Atlas that accompanies this book), we deem it necessary merely to introduce here a few general questions, mostly relating to such parts of North America as do not appear on any of the sectional maps.

QUESTIONS ON THE MAP OF NORTH AMERICA.

1. How is North America bounded? In what part is Russian America? By what strait is it separated from Asia? How wide is that strait? About 40 miles. What circle crosses Russian America? In what zones is Russian America? What town is the capital? Sitka. How is it situated? On Sitka Island, off the west coast of Russian America.

2. How is Russian America bounded? Where is Bristol Bay? Point Barrow? Chelighoff Strait? Cape Prince of Wales? Point Beechy? Kodiak Island? Cape Romanzoff? Nunnivack Island? Colville River? Cape Lisburn? What island north-west of Nunnivack? Describe Kwickpak River.

3. Where is the peninsula of Alaska? What large island lies south of Sitka? Where is Cook's Bay, or Inlet? Where is Mount St. Elias? In what direction from it is Mount Fairweather? How is British America bounded? What three straits connect the Arctic Ocean with Baffins Bay? Between what islands is that bay situated? What is an island?

4. Where is Prince William's Land? Has this land been fully explored? No. What strait leads to Hudson Bay from the Atlantic? What one from the Gulf of Boothia? Strait of the Fury-and-Hecla. What channel south of this strait? What lands does Hudson Strait separate? It separates Labrador from a partially explored region, called Fox Land.

REMARK.—Fox Land doubtless forms a part of that great body of land called Prince William's Land, and what is named Cumberland Island is probably a peninsula partly surrounded by Davis Strait and Northumberland Inlet.

5. What peninsula lies between Fox Channel and the Gulf of Boothia? What strait connects Welcome Gulf with Fox Channel? What waters surround Southampton Island? What important cape projects from the coast of British America between the meridians of 125° and 130° west longitude?

6. What is a cape? What is a promontory? By what other names are capes called? Points, mulls and heads. Are there any projections on the coast of Russian or British America that are called heads? Any that are called points? Which are they? Where is Cape Churchill? Chidleigh?

7. What two rivers empty into Athabasca Lake? On which side of the Rocky Mountains does Peace River have its source? What two other large rivers break through this range in their onward course to join the Mackenzies, or its tributaries? L. and P. Where is Slave River?

8. What river empties into Great Slave Lake on the south-west? Where is Great Bear Lake? What river is its direct outlet? Great Bear River. What river is the *final* outlet of the lakes above mentioned? Where is Coronation Gulf? What river empties into it?

9. What strait connects Bathurst Inlet with the Arctic Ocean? What land lies north-east? What land has been partially explored east of Wollaston Land? What land east of Baring Island? What waters surround Baring Island? Banks Strait on the north, Investigator and Prince of Wales Sounds on the east, and the Arctic Ocean on the south and west.

10. What strait or sound is east of Banks Strait? East of that? Between what lands is Barrow Strait? It lies between Cornwallis Island on the north, and North Somerset Island on the south. What waters surround Cornwallis Island? It has not been ascertained, except that Wellington Channel is on the east, and Barrow Strait on the south.

LESSON IX.

QUESTIONS ON THE MAP OF NORTH AMERICA—(*Continued*).

1. What waters surround North Somerset Island? Barrow Strait on the north, Prince Regent Inlet on the east, Bellot Strait on the south, and Peel Sound on the west. What land has been discovered west of Peel Sound? Prince of Wales Land. What inlet connects Lancaster Sound with the Gulf of Boothia? Where is Boothia Felix?

2. What water communication is there from Baffins to Hudson Bay by way of Lancaster Sound? What land lies north of this sound? What is it supposed to be? An island. Where is Jones Sound? What land lies north-west of North Devon? G. What mountain in Grinnell Land? When, and

by whom was Grinnell Land discovered? In 1850, by an expedition in search of the late Sir John Franklin, fitted out by Henry Grinnell, Esq., of New York.

3. What channel is south-west of Grinnell Land? Where is Smith's Sound? What bay south? What strait leads from that bay to the Atlantic? What water communications can you trace from the Arctic to the Atlantic? What one from the Arctic to the Pacific? What is the southern part of Hudson Bay called? What rivers empty into that bay?

4. Of what lakes is the St. Lawrence the final outlet? In how many zones does British America lie? Where is Lake Winnipeg? What river is its outlet? N. What river empties into the lake from the south-east? Winnipeg. Of what lake is it the outlet? Lake of the Woods.

5. What river empties into Lake Winnipeg on the north-west? Describe that river. Where is the Assiniboin? What lakes are connected with Lake Winnipeg? In what range are Mounts Brown and Hooker? What two large rivers have their source west of these mountains? Which flows through a part of United States territory? Into what gulf does Frazer's River empty? What course does it flow? Describe the Columbia.

6. What large island west of the Gulf of Georgia? What large island north-west of Vancouver? North of Washington? North of Prince of Wales? To what country does Sitka belong? In what direction from Continental North America is Greenland? What cape south of Greenland? Mention the principal settlements of Greenland. Where are Cockburn and Cumberland Islands?

7. Where is Iceland? What town is the capital? What celebrated volcano on this island? Where is Newfoundland? What town is the capital? Mention the rivers of British America in order, from the Mackenzies to Albany River. M., Great Bear, A., P., S., H., L., P.,—C., Great F., S., C., N., S., North B., South B., A., Winnipeg, and S . . . . n.

8. What cape at the mouth of the Nelson? What fort on the Severn? Which is the chief settlement of the Hudson Bay Company's Territory? York Factory. How is it situated? It is situated on Hayes River, a stream that empties into Hudson Bay east of the Nelson. Of what lakes is Churchill River the outlet? Where is Chesterfield Inlet? What inlet still further north?

9. Of the countries in North America, which one is furthest north-west? Furthest south? Furthest east? Furthest west? Which two extend from the Atlantic to the Pacific? Which from the Gulf of Mexico to the Pacific? Which one from the Caribbean Sea to the Pacific?

10. What two countries in North America have no coast on the Pacific? What five have? What one lies partly in the temperate and partly in the torrid zone? What two partly in the temperate and partly in the frigid zone? What one wholly in the temperate? Which are the chief countries of Continental North America? Of these, which one is the largest? Which one the smallest? Which one is nearest to Asia? Which to South America?

LESSON X.

NORTH AMERICA.

Area in sq. miles, 8,000,000. Population, 40,000,000.

Geographical Position, etc.—This portion of the American Continent lies between Europe on the east, and Asia on the west. It is nearly surrounded by the Arctic, Atlantic and Pacific Oceans; and extends from about the eighth parallel of north latitude to the Arctic Sea. The longest straight line that can be drawn overland extends from Cape Sable, in Florida, to Cape Lisburn, in Russian America, a distance of 4,260 miles. Its greatest breadth is about 3,000 miles, and the entire extent of its coast is about 22,000 miles.

Physical Characteristics.—The surface of North America is divided into five great physical regions; viz., the great northern plain, lying north of the 50° of north latitude, which is a cold and barren waste, containing numerous lakes and rivers; the eastern declivities of the Alleghany Mountains; the Great Valley of the Mississippi; the table-land of Mexico; and the slope lying between the Rocky Mountains and the Pacific Ocean.

The lakes of North America constitute one of its most remarkable features. The chief of those belonging to the basin of the Mackenzies are Athabasca, Great Slave and Great Bear; belonging to the basin of the Churchill, are Methye, Wollaston and Deer; to the basin of the Nelson, Lake of the Woods, Winnipeg, Manitoba and Winnipegoos; and to the basin of the St. Lawrence, Superior, Michigan, Huron, St. Clair, Erie and Ontario.

Inhabitants, History.—The present population consists of Whites, Negroes, Indians, and Esquimaux. The Whites are of European, the Negroes of African, and the Esquimaux of Asiatic descent. The Indians are the aborigines.

The Continent of America is called the "New World," from its having been recently discovered. The inhabitants of the Eastern Continent, or Old World, knew nothing respecting this portion of the globe until the year 1492, at which time Christopher Columbus made his memorable voyage, which resulted in his discovering the Island of Guanahani, or Cat Island (one of the Bahama group), now called St. Salvador.

This remarkable man was a native of Genoa, in Italy. In his third voyage he discovered a portion of the American Continent, at the mouth of the Orinoco.

The first explorer of Continental North America was John Cabot, a Genoese, who, accompanied by his son, Sebastian, set sail from England in June, 1497, and discovered that part of the North American coast now called Labrador.

When North America was first discovered it was one vast wilderness, inhabited by numerous savage tribes, which were subsequently styled Indians.

RUSSIAN AMERICA.

Area in square miles, 450,000. Estimated population, 61,000.

Geographical Position.—Russian America, an extensive, though but little known region, lies in the north-west part of North America.

Surface.—As it has never been fully explored, but little can be said respecting the character of the surface. In the south-east part there is a chain of mountains, of which Mounts St. Elias and Fairweather are the loftiest peaks. Between the mountain range and the sea, the land, in some parts, is low and marshy.

Soil, etc.—The soil, so far as known, is sterile, and the climate exceedingly cold. Fur-bearing animals abound, also fish. Grain is produced in the south in very small quantities, and here and there a few trees, mostly pines and birches, are found on the hills.

Inhabitants, etc.—The inhabitants are chiefly Esquimaux and Indians, and the country is subject to Russia. In consequence of the fur-bearing animals with which Russian America abounds, it has attracted at various times the commercial enterprise of several of the nations of the earth.

In 1780, owing to a great demand for furs in the Asiatic markets, the Russian navigators were stimulated to make great exertions in order to supply the demand. They accordingly explored the north-west coast of North America, and succeeding in finding the articles they were in quest of, established several trading points on the coast, for the purpose of trafficking with the natives.

This finally led to the establishment of Russian colonies on this part of the American coast.

Manufactures and Exports.—There are no manufactures, the chief employment of the natives being hunting and fishing. The furs which they take are sold to the Russian fur-traders. The exports are furs and fish.

Sitka, or New Archangel, on the Island of Sitka, is the capital of the Russian Possessions, and the chief settlement of the Russian American Company. Sailing vessels ply between Sitka and Petropaulovski, the principal Russian port in Kamtchatka, by means of which, government communications are kept up between the colonies and St. Petersburgh, the great capital of the Russian Empire.

THE ALEUTIAN ISLES.—These islands consist of several groups lying between the Peninsula of Alaska and the Asiatic Continent. They are rocky, and, for the most part, volcanic, and their number is not known. They belong to Russia.

Inhabitants, etc.—The inhabitants (about 9,000) are a mixture of the Mongul Tartars and the North American Indians.

They are skillful fishers and hunters, and in pursuit of the sea-otter will undertake voyages of 1,000 miles in length from island to island in their fragile *baidares*—a kind of light boat, composed of the skins of animals, drawn tightly over a framework of wood, or of fish-bones. Each boat is made to hold one person, who sits in a round hole, just fitted to the size of his body. In summer, the inhabitants live in huts; and, in winter, in spacious excavations of the earth, roofed with turf, each of which is capable of accommodating from 50 to 150 persons.

LESSON XI.

BRITISH AMERICA.

Area in square miles, 2,800,000. Population, 2,280,000.

Geographical Position, etc.—This country comprises all the northern continental portion of North America except the Russian Possessions, and all the islands in the vicinity except Greenland and Iceland. It extends from the Arctic Ocean on the north to the United States on the south, and from the Atlantic to the Pacific Ocean.

How Divided.—British America is divided into several provinces; viz., Hudson Bay Company's Territory, Canada, New Brunswick, Nova Scotia, Newfoundland and Prince Edward's Island. The last two are insular provinces.

HUDSON BAY COMPANY'S TERRITORY.

Geographical Position, etc.—This territory, sometimes called New-Britain, comprises all of Continental British America, except the south-east portion, and is under the immediate government of the Hudson Bay Company.

Surface.—The greater portion of the surface consists of dense forests, vast swamps, expanded lakes, large rivers and lofty mountains; and is, for the most part, in a state of primeval simplicity.

Soil, etc.—In the northern districts the soil is barren; but in the south it is tolerably fertile. The climate is so cold, particularly during the winter season, that wine is often found frozen into a solid mass; and the bays and lakes are covered with ice during half the year. On the coasts the country produces pines, birch, larches, &c., but the trees are small and knotty; in the interior, the same kind of trees is more abundant and of a greater size. Of the fur-bearing animals, which are here numerous, there are upwards of twenty different kinds. The seas and lakes abound in morses, seals, cod, &c.

Inhabitants.—The inhabitants, estimated at about 180,000, are chiefly Indians and Esquimaux.

Manufactures and Exports.—There are no manufactures; the inhabitants being wholly occupied in hunting and fishing. The chief articles of export are furs, dried and salted fish, oils and walrus-ivory.

York Factory, a settlement on Hayes River, is the capital of the Company's territory, and their chief trading station.

BRITISH PROVINCES IN NORTH AMERICA.

LESSON XII.

MAP STUDIES.—Systematically Arranged.

Bound the following Provinces, viz.:—Canada, New Brunswick, and Nova Scotia.

State the situation of the following Cities and Towns, viz.:—Ottawa, Prescott, Brockville, Kingston, Coburg, Port Hope, Toronto, Hamilton, Queenstown, Simcoe, Windsor, Chatham, London, Brantford, Paris, Goderich, Barrie,—New Carlisle, New Liverpool, Quebec, Three Rivers, Sorel, Sherbrooke, Longueuil, St. Johns, La Prairie, Montreal,—Dalhousie, Bathurst, Chatham, Liverpool, Dorchester, St. John, Gagetown, Fredericton, St. Andrews,—Truro, Pictou, Wilmot, Sherbrooke, Halifax, Lunenburg, Liverpool, Shelburne, Yarmouth, Weymouth, and Windsor.

Describe the following Islands:—Newfoundland, Miquelon, St. Pierre, Sable, Cape Breton, Prince Edwards, Magdalen, Anticosti, and Manitoulin.

Describe the following Towns:—Harbor Grace, St. John's, Placentia, Sidney, Louisburg—and Charlottetown.

LESSON XIII.

MAP STUDIES.—Systematically Arranged.

Describe the following Capes:—Chidleigh, Harrison, Charles, Gaspe, Canso, Sable,—Bauld, Bonavista, Race, Ray,—and North.

Describe the following Gulfs and Bays:—James, Ungava, St. Lawrence, Chaleurs, Miramichi, Halifax, Fundy, Mines, Georgian,—White, Notre Dame, Bonavista, Trinity, Placentia, Fortune, St. George's,—and Bras d'Or.

Describe the following Straits:—Belleisle, Northumberland, and Canso.

Describe the following Lakes:—St. Joseph, Abbitibbe, Mistissinnie, Nitcheguan, Caniapuscaw, Melville, Meshickemau, St. John, Grand, Temiscaming, Simcoe, Nipissing,—and Bathurst.

Describe the following Rivers:—Albany, Moose, Abbitibbe, Harricanaw, Rupert, East Main, Great Whale, Koksak, Meshickemau,—St. Lawrence, French, Severn, Thames, Grand, Ottawa, Aux Lievres, Montreal, St. Maurice, Ribbon, Saguenay, Betsiamite, Sorel, St. Francis, Chaudiere,—Restigouche, St. John's,—and Exploits.

LESSON XIV.

CANADA WEST.

Area in square miles, 148,000. Population, 952,000.

Geographical Position.—This part of the Canadian province lies to the north of the great lakes, which form the boundary line between British America and the United States, and extends westward from the Ottawa River to the head waters of those rivers which flow into Lake Superior.

Surface.—It is considerably diversified by ridges of table-land, which are not sufficiently elevated to be denominated mountain ranges. A large tract of country lying between Georgian Bay and the upper part of the Ottawa River, is considerably elevated. The eastern part of the province is, for the most part, level, gradually sloping down towards the Ottawa on the one side, and the St. Lawrence on the other.

Soil, etc.—The soil is generally fertile, and the climate more mild than that of the eastern part of the province; still it is colder than those countries in Europe which are situated in similar latitude. Table fruits and various kinds of grain are among the chief productions. Wild animals abound in the forests; many of them valuable for their fur. Maple trees are numerous, from which a considerable quantity of sugar is obtained.

Inhabitants, etc.—The inhabitants consist chiefly of settlers from Great Britain and the United States, with their descendants. Some native Indians yet remain on the shores of Lakes Huron and Superior.

The country is subject to Great Britain, and forms a part of the British Colonial possessions in North America. The province is provided with a Governor, Council, and House of Assembly. The Governor and Council are appointed by the mother country, and the members of Assembly are chosen by the people of the province.

Traveling Facilities.—Between the different towns of the province are good roads, and several lines of railway are being completed, connecting the ports on Lake Ontario with those of St. Clair and Detroit Rivers.

Manufactures and Exports.—The manufactures are, of late, receiving considerable attention. Wheat, timber, pot and pearl-ashes, furs, and fish form the leading articles of export.

Kingston, Canada West.

Cities and Towns.—Bytown is situated on the Ottawa at the entrance of the Rideau Canal. It is connected by a handsome suspension bridge, with a small place called Hull, on the opposite bank of the river.

Kingston, situated at the north-east extremity of Lake Ontario, immediately above its outlet, the St. Lawrence (here called Cataraque), is the great depot of the government steamers, and of the boats employed on the Rideau Canal. It possesses an excellent harbor, and is the naval arsenal of Great Britain in this quarter.

Toronto, the capital of British America, is located on a fine harbor on the northern shore of Lake Ontario. It is extensively engaged in trade, and maintains a constant steamboat intercourse, during the season of navigation, with the various ports on the great lakes and the River St. Lawrence. By means of the electric telegraph, this city communicates with the chief towns and cities of Canada and the United States; and it is connected by rail roads with nearly all the cities of note in North America.

Hamilton, situated in an extensive valley on Burlington Bay, at the head of Lake Ontario, is an important commercial city of Western Canada. It is also situated on the line of the Great Western railroad, which extends across the province, from the Niagara to Detroit River.

CANADA EAST.

Area in square miles, 202,000. Population, 890,000.

Geographical Position.—Canada East, or Lower Canada, embraces all that part of the Canadian province east of Ottawa River.

Surface.—It is agreeably diversified by hill, plain and valley. A ridge of high land extends along the south side of the St. Lawrence River, from about the meridian of 70° west, to the Gulf of St. Lawrence.

Soil, etc.—In the northern parts, the soil is too barren for cultivation, but along the banks of the St. Lawrence it is quite fertile. The climate is very cold considering its distance from the equator. The markets in the winter, to a person who has been accustomed to a more genial clime, appear very curious; every thing is frozen. The productions are similar to those of Canada West.

Natural Curiosities.—About a half dozen miles north-east of the city of Quebec, and a short distance above the spot where the Montmorency discharges itself into the St. Lawrence, are the celebrated and beautiful Falls of Montmorency. The Montmorency is a small river, which in its onward course, to join the St. Lawrence, descends a precipice of about 250 feet.

These, and the Falls of Chaudière, in a river of the same name, 2½ miles above its mouth, are the chief natural curiosities belonging *entirely* to the Canadian province. It has, however, a share in the Falls of Niagara,—the most stupendous cataract in the world.

Inhabitants.—A large proportion are French settlers, and their descendants, who are chiefly engaged in agricultural pursuits.

Traveling Facilities.—Good roads exist in the more settled portions of the province, and railroads connect the chief cities with those of the United States; but the commercial traffic is mainly carried on by means of the lakes and rivers, or the canals which have been constructed to overcome local difficulties in the navigation of the latter.

Manufactures and Exports.—These are similar to those of the western portion of the province.

Cities and Towns.—QUEBEC, a strongly fortified city, styled "The Gibraltar of America," is situated partly on a plain, along the left bank of the St. Lawrence, and partly on a promontory, 350 feet in height. By this means, Quebec is divided into two parts, called respectively, Upper and Lower Town. The harbor is accessible for ships of the

line, and vessels of the largest burden can come up to its wharves. This city carries on regular intercourse (during the season of navigation), by means of steamers, with Montreal and other ports on the St. Lawrence, and also with Halifax and other cities on the Atlantic coast. The principal edifices of Quebec are in the upper and fortified part of the city.

"The Plains, or Heights of Abraham," is the name given to the entire promontory, lying between the Charles and St. Lawrence, at the east extremity of which, the citadel of Quebec stands. This spot is memorable in history, for the battle fought in 1759, which resulted in the loss of the two Generals—Wolfe and Montcalm.

Montreal is pleasantly located on an island of the same name, in the St. Lawrence. The island is 32 miles in length and 10 in breadth. The city is the chief emporium of trade between Canada and the United States.

The Roman Catholic Cathedral, in this city, is the finest edifice in British America. It is faced with stone, has six towers, and is capable of containing 10,000 persons.

A railroad extends from Longueil, a small place on the St. Lawrence, opposite Montreal, to Portland in Maine, a distance of about 300 miles.

Besides this there are numerous other railways (either completed or in course of construction) leading from the city, and connecting it with all the great cities of British America and the United States.

Three Rivers.—This town is situated on the left or west bank of the St. Lawrence, at the junction of the St. Maurice. The St. Maurice River divides into three channels at its mouth—hence the name of the town. It ranks next to Quebec and Montreal in importance. The inhabitants are mostly of French descent; and it is one of the oldest towns in Canada.

LESSON XV.

THE PROVINCE OF NEW BRUNSWICK.

Area in square miles, 27,700. Population, 194,000.

Geographical Position.—The province of New Brunswick extends from the Ristigouche River on the north, to the Bay of Fundy on the south, and from the Gulf of St. Lawrence and Northumberland Strait on the east, to the St. Croix River on the west.

Surface.—The surface is considerably varied. Along the shores of the Gulf, the country is generally level, and the tract along the Bay of Fundy rocky and uneven. But a small portion of the land has been cleared; the rest is covered with dense forests.

Soil, etc.—The soil is generally fertile; the climate and productions are similar to those of Canada. Potatoes are the chief article of culture, and the fisheries are highly important. Manganese and iron are said to be abundant, and coal is plentiful.

Inhabitants, etc.—The inhabitants are mostly descendants of the English and Irish. New Brunswick is a colonial possession of Great Britain, and is, therefore, subject to the sovereign of England.

Traveling Facilities.—These are not very extensive as yet; but there are in contemplation several projects, which, if carried out, will greatly increase the facilities for intercourse between the various parts of the province. One of these, is a canal to cross the isthmus, that unites this province with Nova Scotia, by means of which, Northumberland Strait would be united with the Bay of Fundy.

Manufactures and Exports.—The manufactures are, of late, receiving more attention. Ship-building is carried on at St. John; but the chief employments are the timber trade and the fisheries. The exports are timber, dried fish, gypsum, and grindstones.

Cities and Towns.—Fredericton, the capital of the province, is situated on the right bank of the St. John's River. The streets are spacious, and, as land is cheap, much space is devoted to garden plats throughout the city. The merchants obtain their goods mostly from St. John. Between these two places steamers ply frequently, except during winter, when the communication is maintained by means of sledges drawn by horses over the ice.

St. John.—This town stands on a steep slope separated by a projecting rock into two portions. Its harbor is fine and ably defended by several forts. It is the entrepot of a wide extent of country and has extensive docks for ship-building.

St. Andrew's, is situated at the mouth of the St. Croix River. The harbor is large, well protected, and never closed during the winter. Steamers ply between this place and St. John.

THE PROVINCE OF NOVA SCOTIA.

Area in square miles, 18,700. Population, 276,000.

Geographical Position.—Nova Scotia occupies a peninsula situated south-east of New Brunswick, with which it is connected by an isthmus of about fourteen miles in width.

Surface.—It is greatly diversified, and well watered. The interior forms a table-land of moderate elevation. No portion of the peninsula exceeds an elevation of 700 feet above the level of the sea. The coasts contain many inlets, some of which form excellent harbors.

Soil, etc.—There are some highly fertile districts, but these are of limited extent; and only a very small part of the peninsula is under cultivation. The winters are very severe, and the summers short and hot. Fogs are frequent along the line of the Atlantic coast.

Grain and potatoes form the staple crops. Coal of excellent quality abounds, and grindstones are very extensively quarried. The principal resources of the colony, are the timber, plaster and coal trade, and the fisheries.

Inhabitants, etc.—The present population is mainly composed of European emigrants and their descendants. Nova Scotia is a colonial possession of Great Britain.

Manufactures and Exports.—The chief pursuits of the inhabitants being agriculture, the lumber business, and the coasting trade, but comparatively little attention is given to manufactures. The leading exports are lumber, fish, coal, gypsum, grindstones, whale and seal oil and furs.

Cities and Towns.—Halifax, the capital of Nova Scotia, situated on the west side of Halifax harbor, is the chief naval station for the British North American Colonies.

The appearance of the city from the water is peculiar and prepossessing. The wharves are lined with vessels; and the dwelling houses and public buildings rear their heads over each other as they stretch along and up the sides of the hill on which the city is built.

Mail Steamers from England and the United States stop at this place. A steam communication is kept up between Halifax and St. John in New Brunswick, and other neighboring towns.

LIVERPOOL, situated on the south coast, about seventy miles from Halifax, carries on a flourishing trade in lumber and fish.

LABRADOR, a large peninsula of eastern Continental British America, is included in the government of Newfoundland. Several hundred schooners come annually to the east coast of Labrador, from the neighboring provinces, bringing with them, it is estimated, not less than 20,000 men for the purpose of fishing off the coast. Besides these, the crews of about 400 United States vessels visit this coast during the same time. The fish here caught are chiefly whales, cod, salmon and herring. The resident inhabitants are mainly occupied as furriers and seal-catchers. Nain, a Moravian establishment, is the chief settlement in Labrador.

LESSON XVI.

THE ISLAND OF NEWFOUNDLAND.

Area in square miles, 86,000. Population, 100,000.

Geographical Position, etc.—This island, an insular province of British America, and a colonial possession of Great Britain, lies south-east of Labrador, from which it is separated by the Strait of Belleisle which is about 12 miles in width.

Surface.—The surface is mostly marshy, and the shores are deeply indented by numerous bays.

Soil, etc.—The soil is ill-suited to agriculture, and its cultivation, therefore, is pursued to a very limited extent. The climate in the winter is severe; and during a great part of the year the atmosphere is humid, and fogs are very prevalent. Pasturage is plentiful, and the plains abound with deer. Timber is scarce; and the chief resources of the inhabitants, are in the fisheries, of which the cod fishery is the most important.

The banks of Newfoundland are extensive submarine elevations, which lie in the Atlantic to the south of the island, and spread over between 600 and 700 miles in length. The depths of water on these vary from 15 to 80 fathoms. At these banks are the celebrated fishing grounds, that have for many years, attracted not only English, but French and American fishermen to these quarters.

Inhabitants.—The inhabitants are chiefly Irish.

Manufactures and Exports.—The manufactures are limited to a

few articles of warm woolen clothing. Ship-building is carried on to a small extent; but the materials are imported from New Brunswick. The exports are mainly the produce of the fisheries.

St. John's, the capital of the island, on the south-east coast, is much resorted to during the fishing season; and is the only town worthy of note on the island.

THE ISLAND OF CAPE BRETON.

Area in square miles, 3,100. Population, 55,000.

Geographical Position.—This island, an insular colony of Great Britain, lies north-east of Nova Scotia, of which province it forms a part.

Surface, etc.—The surface is broken and hilly, and the island is very irregularly shaped, being indented by numerous bays, and almost intersected by an arm of the sea, called Bras d'Or.

The soil is fertile, and the climate is not so rigorous as in the continental colonies. Fish and coal are the chief articles of export.

Inhabitants.—The inhabitants are mostly emigrants from the Scottish Hebrides, and their descendants. Fishing is the leading object of pursuit.

Sydney, the capital, is situated in the eastern part of the island on Sydney Bay. In the vicinity are extensive beds of bituminous coal. A steamer plies between this place and Halifax during the summer.

PRINCE EDWARD'S ISLAND.

Area in sq. miles, 2,100. Population, 63,000.

Geographical Position.—This island, an insular colony of Great Britain, lies east of New Brunswick, and north of Nova Scotia.

Surface, etc.—The surface is level, or undulating, and well watered; the soil fertile; and the climate is milder than that of the neighboring colonies. The pastures are rich, timber is abundant, and the fisheries are extensive.

Inhabitants, etc.—The inhabitants are chiefly Acadian French settlers and Highland Scotch. The chief pursuit is agriculture, and the commerce of the island consists in the exchange of its agricultural products, timber, dry and pickled fish, for manufactures and other articles of consumption.

Charlottetown, the capital, is situated on Hillsborough Bay, near the south coast. It is a small town, and many of the inhabitants are extensively engaged in ship-building.

ANTICOSTI.—This is a desert island, containing an area of about 2600 square miles, situated at the mouth of the St. Lawrence, dividing the river into two channels, from twenty to forty miles in width. On the south-western point of the island stands a lofty and magnificent lighthouse, which is visible for a distance of 25 miles. The island belongs to Canada East.

MAGDALEN ISLES.—These consist of a chain of islands, situated in the Gulf of St. Lawrence, about 70 miles west of Newfoundland. They are inhabited by about 2000 persons, chiefly French Acadians, whose principal dependence is upon the cod and mackerel fishing on the banks in the vicinity of the group.

BERMUDA, or SOMERS ISLES.*—This group, consisting of about 300 small islands, embracing an area of 20 square miles, is situated in the Atlantic Ocean, about 600 miles east of South Carolina. Many of these isles are so small and barren that they have neither inhabitants nor name. The largest of the group is 20 miles long, and 2 in breadth. On the inhabited isles fruits of both temperate and tropical regions are raised. The group belongs to Great Britain.

A regular steam communication is maintained between Bermuda and New York, and Bermuda and the West India Islands.

VANCOUVER ISLAND.*—This large island, containing an estimated area of 16,000 square miles, lies west of British America, and north-west of Washington Territory.

The native inhabitants subsist chiefly by hunting and fishing. The island has been made over by the British government to the Hudson Bay Company.

LESSON XVII.

DANISH AMERICA.*

Total area in square miles, 838,000. Total population, 69,000.

DANISH AMERICA comprises Greenland and Iceland, together with some lesser islands, lying near their coasts.

GREENLAND.

Estimated area, 800,000 square miles. Population, 9,000.

Geographical Position.—This immense region (generally supposed to be an island, though its northern extremity is unknown) lies be-

* See Map of North America.

tween the waters of Baffins Bay and the Atlantic Ocean. It extends from Cape Farewell, in latitude 59° 40′ south, to an unknown distance north.

Surface.—But little is known respecting this vast region, as it has never been fully explored. A chain of mountains is supposed to extend the entire length of the island. Along the coast the surface is generally rocky and barren. Numerous small islands lie along the western coast, upon which some of the Greenlanders reside.

Soil, etc.—The soil is generally barren, and the climate is very severe; July being the only month in which there is no snow. Small quantities of kitchen vegetables are produced in the southern part of the island. Various species of seals inhabit the surrounding seas, and are of great importance to the Greenlanders, in supplying them with food and clothing, as well as with various articles useful in their simple arts and domestic economy.

Inhabitants, etc.—The inhabitants are chiefly Esquimaux. Their leading industrial pursuits are seal-hunting and fishing. Greenland belongs to Denmark.

Exports.—The exports (sent chiefly to Denmark) consist of eider-down, skins of seals and other animals, whalebone, and fish oil; for which the Greenlander receives in return various manufactured articles.

ICELAND.

Area in square miles, 37,500. Population, 60,000.

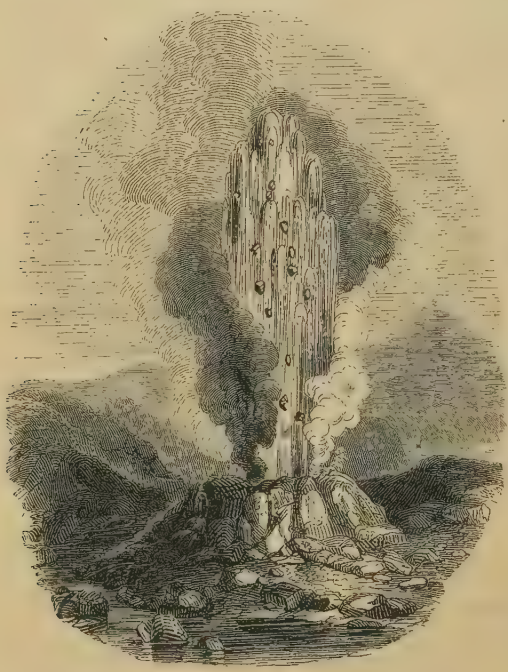
Geographical Position.—This island lies in the Atlantic about 700 miles west of Norway, and 200 miles east of Greenland.

Surface.—The surface is generally mountainous. The highest mountains are on the east and west coasts. They are in groups, and those called *jokuls* are covered with snow, and are chiefly volcanic. About 30 volcanoes have been discovered on this island, the chief of which are Skaptar, Jokul and Hecla.

Soil, etc.—The soil is generally barren, and the climate is very variable. The general temperature is higher than in any other country in the same latitude. Storms of extreme violence are frequent. The longest day of summer and the longest night of winter last each of them about a week. The aurora borealis is seen in Iceland in all its brilliancy and grandeur.

No trees grow on the island, only a few stinted shrubs and mosses;

nor do any reptiles here exist. The want of fuel is severely felt, although the gulf stream and the polar currents occasionally float driftwood to the shores. A kind of white turf is used as a substitute, and coal is imported from Europe in considerable quantities.



The Great Geyser, Iceland.

All the grain, and a great part of the vegetable food, are imported. Domestic animals are numerous, and fish can be had in any quantity. Birds are plentiful, the most valuable of which is the eider-duck.

Natural Curiosities.—The most interesting are the celebrated Geysers, or boiling springs, which are situated in the western part of the island, about 35 miles north of the village of Skalholt.

Inhabitants, etc.—The inhabitants are of the Scandinavian race. The supreme authority of the island is intrusted to an officer, who is appointed by the king of Denmark, with the title of *Stiftsamtman.*

Reykjavik, the capital of Iceland, is a small town on the southwest coast. The resident population does not probably exceed 500, but this is greatly increased during the summer fairs. To these fairs the natives bring butter, skins, live-stock, dried fish, knitted stockings, wool, &c., and receive in exchange various articles from Europe, such as coffee, sugar, tobacco, brandy, flour, salt and soap.

THE UNITED STATES.

LESSON XVIII.

GENERAL QUESTIONS ON THE MAP OF THE UNITED STATES.

1. How many States are there in the United States? Thirty-one. How many Territories? Eight. How many Districts? One. Into how many sections are the States divided? Four. Which are they? Eastern, or New England; Northern, or Middle; Southern and Western.

2. What States form the Eastern, or New England section?

VERMONT, MAINE, RHODE ISLAND, and
NEW HAMPSHIRE, MASSACHUSETTS, CONNECTICUT.

3. Which of these States border on the Atlantic Ocean? Which do not? Which three are bounded west by New York? Which three are bounded north by Canada? Which one borders on Long Island Sound? Which one has the greatest extent of sea-coast? Which one has the least? Which one has no sea-coast?

4. What two States are separated by Connecticut River? What two are crossed by that river? Which of the New England States lies furthest north? Which two furthest south? Which one borders on Lake Champlain? What Province bounds Maine on the east?

5. Which is the largest of the New England States? Which one the smallest? Which are the Northern, or Middle States?

NEW YORK, DELAWARE, and
NEW JERSEY, PENNSYLVANIA.

6. Of these States, which border on the Atlantic? Which two border on Maryland? Which one on Ohio? To which one does Long Island belong? New York. Which two border on Lake Erie? Which one lies nearest Canada? What bodies of water separate New York from Canada? What river separates Pennsylvania from New Jersey?

7. Which of the Middle States is the largest? P. Which the smallest? Is there much difference between the area of New York and that of Pennsylvania? What two States are separated by Delaware Bay and River? Which of the Middle States lies furthest north? Which furthest south? Which two furthest east? Which one furthest west? Which one borders on the New England States?

8. What river crosses Pennsylvania from north to south? Does it find its source in Pennsylvania? Into what bay does it empty? What States comprise the Southern section of the Union?

MARYLAND, N. CAROLINA, GEORGIA, ALABAMA, LOUISIANA, and
VIRGINIA, S. CAROLINA, FLORIDA, MISSISSIPPI, TEXAS.

9. Which two of the Southern States border on the Middle States? Which five have a coast bordering on the Gulf of Mexico? Which one borders on Kentucky? Which one on the Ohio River? Which two are separated by the Potomac River? Which have a sea-coast on the Atlantic? Which one borders both on the Atlantic and the Gulf of Mexico?

10. What two Southern States are separated by Savannah River? What two are partly separated by Chattahoochee River? What two by the Mississippi? What two by the Sabine? What two rivers form nearly all the western boundary of Virginia?

11. Which three of the Southern States are bounded north by Tennessee? Which two south by Florida? Which one borders on the Rio Grande? Which two extend furthest north? Which one furthest south? Which one furthest west? Which one furthest east? Which one is the largest? Which one the smallest? Which one is a peninsula? Are any of the Southern States situated inland?

LESSON XIX.

MAP QUESTIONS CONTINUED.

1. What States comprise the Western section of the Union?

WISCONSIN,	KENTUCKY,	MISSOURI,	INDIANA, and
MICHIGAN,	TENNESSEE,	IOWA,	CALIFORNIA.
OHIO,	ARKANSAS,	ILLINOIS,	

2. On which side of the Mississippi is Wisconsin? On which side Iowa? Missouri? What Western States are separated from each other by the Mississippi? What ones are separated by the Ohio? Which of the Western States east of the Mississippi, lie north of the Ohio? Which south?

3. Which border on the great lakes? Which do not? Which lie west of the Mississippi? Which one of these borders on the Pacific Ocean? Which of the Western States border on the Southern States? Do any of the Western States border on New York? Any on Pennsylvania? Which one?

4. What State bounds Ohio on the west? Indiana on the west? Wisconsin on the south? Kentucky on the south? Missouri on the north? Arkansas on the south? What bounds California on the east? On the south? What river crosses Missouri from west to east? What one Arkansas?

5. What lake separates Wisconsin from Michigan? What lakes separate Michigan from British America? Ohio from British America? What division of British America? How many States compose the New England section? How many the Southern? How many the Western?

6. Do any of the Western States border on the Atlantic? Any on the Gulf of Mexico? Any on the Pacific? Which one? I find all the Western States except four border on the great Mississippi, which are they? Four of

the Western States border on the Ohio, which are they? Which two border both on the Ohio and the Mississippi? Which two border both on the Mississippi and the Missouri? I. and M.

7. How many Territories are there in the United States? Which are they? WASHINGTON, MINNESOTA, INDIAN, UTAH, and NEBRASKA, KANSAS, NEW MEXICO, OREGON.

8. Which of the Territories border on British America? Which have a sea-coast on the Pacific? Which are bounded west by California? To which section of the Union does California belong? How is New Mexico bounded on the east? To which section does Texas belong?

9. How is Indian Territory bounded on the east? Is Arkansas a Southern State? Is Missouri? What Territories does the Rocky Mountain Range separate? What Territories lie wholly east of that range? What ones wholly west? What one is crossed by the Sierra Madre?

10. What Territory is crossed by the Rio Grande? Which side of the valley of the Rio Grande does the Sierra Madre Range extend? How is Nebraska bounded on the north? Utah on the north? Oregon on the north? Utah on the south? New Mexico on the south? Minnesota on the south? What river separates Minnesota from Nebraska?

LESSON XX.

THE UNITED STATES.

Flag of the United States.

Area in square miles, 3,885,000.
Population, 23,260,000.
Length from east to west, about 3,000 miles.
Breadth, north to south, about 1,700 miles.
Number of States, 31.
Number of inhabitants to a square mile, 7.

CAPITAL CITY—WASHINGTON.

Geographical Position.—The United States occupy the central or middle portion of North America. The territory extends from British America and the great lakes on the north, to the Gulf of Mexico, and the Mexican Republic on the south, and from the Atlantic on the east to the waters of the Pacific Ocean on the west.

Extent of Coast.—The main shore on the Atlantic, including indentations in the coast, such as bays, sounds, &c., measures 6,186 miles, on the Gulf of Mexico 3,467 miles, and on the Pacific 2,281

miles. The shore-line of the great northern lakes is estimated at 3,620 miles. The northern frontier of the United States bordering on British America is 3,303 miles in length, and the frontier bordering on the Mexican Republic 1,456 miles.

Comparative Size.—The territorial extent of the Republic of the United States, is nearly ten times larger than that of Great Britain and France combined; three times as large as the whole of France, Britain, Austria, Prussia, Spain, Portugal, Belgium, Holland, and Denmark together; one-and-a-half times as large as the Empire of Russia in Europe; and about one-tenth less than the area of all Europe.

Surface.—The United States may be divided into three great physical regions; viz., the Atlantic Slope, the Great Valley of the Mississippi River, and the Pacific Slope.

THE ATLANTIC SLOPE extends from the ocean, the greater part being a level country, for some 50 or 100 miles inland, there it begins to rise and gradually increases in elevation till it terminates in the Alleghanies, which separate the waters that flow westwardly to the Mississippi from those which flow eastwardly to the Atlantic.

THE GREAT VALLEY OF THE MISSISSIPPI comprises that portion of the United States lying between the Alleghany Ridge and the Rocky Mountains. The central part of that valley is intersected by the Mississippi River, which flows through it in a southerly direction, and finds its outlet in the Gulf of Mexico.

THE PACIFIC SLOPE extends westward from the Rocky Mountain Range to the Pacific Ocean. This slope is considerably diversified by many minor mountain ranges, and numerous hills.

Inhabitants, etc.—The inhabitants consist of Whites, Negroes and Indians. The Whites are nearly all of European descent, and form the greater part of the population. The Negroes are of African descent, and the Indians are the Aboriginals. The Negroes number about 4,000,000. About 3,000,000 of them are slaves. The Indians number about 400,000. The English is the universal language of the country.

History.—The first permanent English settlement was made by the English, at Jamestown, Virginia, in 1607. In 1775, there were thirteen colonies established, with an estimated population of nearly three millions.

The inhabitants of the colonies, feeling themselves aggrieved by the injustice of the British Parliament, in taxing them without their consent, determined to throw off all allegiance to the mother country. Accordingly in 1776, July 4th, they openly declared to the world that

the colonies "were, and of right ought to be, free and independent States," &c. &c.

This was called the Declaration of Independence. The colonies were thereafter to be styled—"The United States of America." This act of the colonists gave rise to a long and bloody war of seven years, duration. The independence of the colonies was finally acknowledged by the British Government in 1783, and peace was proclaimed Jan. 20th. of that year.

The present Constitution of the United States went into operation in March 1789. To the thirteen original States, eighteen new ones have since been added, making a total of thirty one States. Besides these there are eight Territories and one District.

THE ORIGINAL THIRTEEN STATES,

WITH THE DATE WHEN EACH RATIFIED THE PRESENT CONSTITUTION.

Delaware,	7th December, 1787.	Maryland,	28th April, 1788.
Pennsylvania,	12th " "	South Carolina,	23d May, "
New Jersey,	18th " "	New Hampshire,	21st June, "
Georgia,	2d January, 1788.	Virginia,	26th " "
Connecticut,	9th " "	New York,	26th July, "
Massachusetts,	6th February, "	North Carolina,	21st Nov., 1789.

Rhode Island, 29th May, 1790.

LESSON XXI.

THE UNITED STATES—(*Continued*).

THE EIGHTEEN NEW STATES,

WITH THE DATE WHEN EACH WAS ADMITTED INTO THE UNION.

Vermont,	4th March, 1791.	Maine,	15th March, 1820.
Kentucky,	1st June, 1792.	Missouri,	10th August, 1821.
Tennessee,	" " 1796.	Arkansas,	15th June, 1836.
Ohio,	29th November, 1802.	Michigan,	26th January, 1837.
Louisiana,	8th April, 1812.	Florida,	3d March, 1845.
Indiana,	11th December, 1816.	Texas,	29th December, 1845.
Mississippi,	10th " 1817.	Iowa,	28th " 1846.
Illinois,	3d " 1818.	Wisconsin,	29th May, 1848.
Alabama,	14th " 1819.	California,	9th December, 1850.

THE TERRITORIES,

WITH DATE OF ORGANIZATION.

Oregon,	14th August, 1848.	Washington, ...	1853.
Minnesota,	3d March, 1849.	Nebraska, 30th May, . .	1854.
Utah,	9th September, 1850.	Kansas, 30th May, . .	1854.
New Mexico,	" " "	Indian, ...	

Government.—The government of the United States is a federal democratic republic. The chief officer of the nation is styled the President of the United States.

The legislative power, that is, the power by which the laws of the country are made, is vested in Congress, which consists of a Senate and a House of Representatives. This body assembles in the City of Washington on the first Monday in December of each year.

The Senate is composed of two members from each State, elected by the Legislatures of the same, respectively, for six years. One-third of the whole body is renewed biennially. The number of Senators, then, is always equal to twice the number of States in the Union.

The members comprising the House of Representatives are chosen by the people of the several States every second year. Each State is, at present, entitled to one Representative for every 93,700 inhabitants. Each State is entitled to at least one Representative, though the population be less than the number above stated. The present number of Representatives is 234.

Each organized Territory is permitted to send one delegate to Congress, who has the right to debate on all matters pertaining to his Territory, but cannot vote.

The President and Vice President of the United States are elected by persons called electors. These persons are chosen by popular vote, or by the Legislature of the State. Each State is entitled to as many electors as it has Members of Congress. The electors meet at the proper time, in their respective States, and vote by ballot for President and Vice President. These two Officers are chosen for the term of four years.

The President is Commander-in-chief of the Army and Navy of the United States. He has power, with the concurrence of two-thirds of the Senate, to make treaties, to appoint civil and military officers, levy war, conclude peace, &c.

The administrative affairs of the nation are conducted by the Secretary of State, the Secretary of War, the Secretary of the Treasury, the Secretary of the Navy, the Secretary of the Interior, the Postmaster-general and the Attorney-general. These Officers form what is termed the President's Cabinet.

The judicial power of the United States is vested in a Supreme Court. It is the highest judicial tribunal of the United States. This Court is held in Washington, and has one session annually, commencing on the first Monday in December.

Each State has its own separate and independent legislative, judiciary and executive government, consisting of a Senate and a House of Assembly, a Governor, Judges, &c., who have the power to make, judge of, and execute, all laws pertaining to the State, excepting such as are conceded to belong to the general government. The chief officer of a State is styled the Governor of the State.

The States are for the most part divided into Counties, and the Counties into Townships.

PRESIDENTS OF THE UNITED STATES,

FROM THE ADOPTION OF THE CONSTITUTION TO THE PRESENT TIME.

GEORGE WASHINGTON, of Virginia, in office from 1789 to 1797. Born 1732, died 1799.
JOHN ADAMS, of Massachusetts, in office from 1797 to 1801. B. 1735, d. 1826.
THOMAS JEFFERSON, of Virginia, in office from 1801 to 1809. B. 1743, d. 1826.
JAMES MADISON, of Virginia, in office from 1809 to 1817. B. 1750, d. 1836.
JAMES MONROE, of Virginia, in office from 1817 to 1825. B. 1758, d. 1831.
JOHN Q. ADAMS, of Massachusetts, in office from 1825 to 1829. B. 1767, d. 1848.
ANDREW JACKSON, of Tennessee, in office from 1829 to 1837. B. 1767, d. 1845.
MARTIN VAN BUREN, of New York, in office from 1837 to 1841. B. 1782, - —
WM. H. HARRISON, of Ohio, in office from 1841—1 month. B. 1773, d. 1841.
JOHN TYLER, of Virginia, in office from 1841 to 1845. B. 1789, - —
JAMES K. POLK, of Tennessee, in office from 1845 to 1849. B. 1795, d. 1849.
ZACHARY TAYLOR, of Louisiana, in office from 1849 to 1850. B. 1784, d. 1850.
MILLARD FILLMORE, of New York, in office from 1850 to 1853. B. 1800, - —
FRANKLIN PIERCE, of New Hampshire, in office from 1853 to ——. B. 1804, - —.

LESSON XXII.

STUDIES ON THE MAP OF NEW ENGLAND.

SYSTEMATICALLY ARRANGED.

Bound the following States, viz.:—Vermont, New Hampshire, Maine, Massachusetts, Rhode Island and Connecticut.

State the situation of the following Cities and Towns, viz.:—St. Albans, Highgate, Derby, Guildhall, Danville, Barnet, Newbury, Norwich, Windsor, Weathersfield, Chester, Rockingham, Brattleboro, Bennington, Manchester, Middletown, Castleton, Shoreham, Middlebury, Vergennes, Burlington, Waterbury, MONTPELIER, Randolph and Rutland.

REMARK TO THE TEACHER.—We would here take occasion to explain that a portion of the studies on the Map of New England precedes the description of each State, and that the remainder is given after all the States belonging to this section have been described. This arrangement is adhered to in all the sectional maps of the United States, and in those of Europe.

We would further remark, that the pupil can ascertain, if he so desire, in what county any city or town in the United States (which is given in this work) is located, by consulting the Reference Maps of the accompanying Atlas.

LESSON XXIII.

VERMONT.

Area in sq. miles, 8,000. Population, 314,000. Inhabitants to a sq. mile, 39. Counties, 14.

Geographical Position, etc.—This state, the most north-westerly of the New England section, lies between New York on the west, and New Hampshire on the east, and extends from Canada East on the north, to the northern boundary of Massachusetts on the south. The length of the state from north to south is 157 miles, and its breadth varies from 40 to 90 miles.

Surface, etc.—The surface is generally mountainous, and well wooded. The Green Mountains traverse the state from north to south, separating the streams which flow into Lake Champlain from those which flow into the Connecticut. The base of this mountain range is from 10 to 15 miles in width.

Fertile and highly picturesque valleys intersect the range here and there, and the summits of the mountains are covered with green mosses and several species of winter grasses. From the verdant aspect of the mountains the state received its name. *Verd*, in the French, signifying green, and *mont*, mountain.

Vermont, though situated in the interior, yet by means of Lake Champlain, and the Champlain Canal, in connection with its many railroads, has access to the great commercial ports of the neighboring states.

Soil, etc.—The soil in the valleys is generally rich and fertile, and the hills and mountains that are not arable, afford excellent pasturage. The climate is variable and cold, but very healthy. Snow lies on the ground during 4 or 5 months of the year. The staple productions are wheat, butter, cheese, wool, maple sugar and live stock. Iron, marble, slate and granite are among the chief mineral products.

Natural Curiosities.—The most noted natural curiosities are Bellows' Falls on the Connecticut, about 80 miles south-east of Montpelier; and Great Falls on Lamoille River.

Inhabitants, etc.—The English, by whom the state was permanently settled, erected a fort on the Connecticut, as early as the year 1724. The soldiers of Vermont bore a conspicious part in the war of

the Revolution, and were distinguished by the title of the "Green Mountain Boys." The leading industrial pursuit is agriculture.

Manufactures and Exports.—Manufactures are not extensive, although the state has an abundance of water power. The exports consist chiefly of mineral products, live stock, cheese and maple sugar.

Burlington, Vermont.

Cities.—Montpelier, the capital of Vermont, is situated on the Winooski. It occupies a central position in the state, and is chiefly remarkable for its active trade. Among the public buildings may be mentioned the State House, a magnificent granite structure.

Windsor, on the Connecticut, is noted for its fine site, and the beauty of the surrounding scenery. It carries on a brisk trade by means of the Connecticut, and is in the vicinity of the finest agricultural and wool-growing section of the state. The Vermont State Prison is located here.

Brattleboro, on the Connecticut, is noted for its manufactures, and as being one of the most flourishing towns in the state.

Bennington, situated in the south-western corner of the state, is memorable for the battle fought there in 1777, in which a detachment of General Burgoyne's army was defeated by General Stark.

Middlebury, situated on both sides of Otter Creek, is one of the most important manufacturing towns in the state. It is also the seat of Middlebury College. Marble, obtained from a quarry near the town, is wrought and exported in great quantities.

BURLINGTON, the most populous town in the state, is delightfully situated on Burlington Bay, a branch of Lake Champlain. It is the most commercial town on the Lake. The streets cross each other at right angles, and many of the dwellings are surrounded with gardens ornamented with shrubbery and a great variety of shade trees. The University of Vermont is located at this place.

LESSON XXIV.

MAP STUDIES.—NEW HAMPSHIRE.

State the situation of the following Cities and Towns, viz.:—Lancaster, Strafford, Conway, Ossipee, Gilford, Rochester, Dover, Portsmouth, Rye, Exeter, Hampton, Derry, Manchester, CONCORD, Weare, Amherst, Nashua, Winchester, Keene, Walpole, Charlestown, Claremont, Plainfield, Lebanon, Hanover, Lyme, Haverhill, Plymouth and Bristol.

NEW HAMPSHIRE.

Area in sq. miles, 8,000. Population, 318,000. Inhabitants to a sq. mile, 39. Counties, 10.

Geographical Position, etc.—This state lies between Maine and Vermont, and extends from Canada to Massachusetts. Its length is about 170 miles, and its breadth varies from 20 to 90 miles

Surface, etc.—The surface is mountainous, hilly and broken, with the exception of the south-east part, which is either level or gently undulating. The general slope of the state is from north to south,—part of the rivers taking a south-west direction to the Connecticut, and the remainder generally pursuing a south-easterly course to the Atlantic Ocean.

The White Mountains proper extend only from 14 to 20 miles, but isolated and detached groups of the chain stretch from the northern frontier of this state as far south as Connecticut. Mount Washington is the loftiest peak. The scenery, particularly in the vicinity of the White Mountains, is full of grandeur and wild magnificence, and on this account New Hampshire is often styled the "Switzerland of America."

New Hampshire has only 18 miles of sea coast, and but one good harbor.

Soil, etc.—The soil is not generally fertile. The best lands are in the valleys, and the hills afford very fine pasturage. The climate is

severe yet healthy. The winters are long, the springs damp and foggy, and the summers are of short duration.

The chief productions are grain, potatoes, butter, cheese, wool, maple sugar, bees'-wax and honey. Granite abounds, and hence New Hampshire is frequently styled "the Granite State." Iron is found in almost every county, and a valuable tin mine has also been discovered.

Natural Curiosity.—The White Mountain Notch, a celebrated pass in the mountains, is regarded as a very interesting spot to visit.

Concord, New Hampshire.

Inhabitants, etc.—The inhabitants are chiefly of English descent. The first settlements were made by members of the Plymouth Company, near Portsmouth, in 1623. The leading industrial pursuits are agriculture, manufactures, and lumbering.

Manufactures and Exports.—Manufactures are extensive, chiefly cotton, wool, leather and iron. The principal articles for export are lumber, live stock, wool, fish, pot and pearl ashes and granite.

Cities.—CONCORD, pleasantly situated on the right bank of the Merrimac, is the capital of the state. As this town lies on the route of travel and commerce between Boston and Canada, it has become the centre of several railroads.

Dover, the oldest town in the state, is situated in the south-eastern part, on the Cocheco River. It is very favorably situated for trade, and carries on extensive manufactures, chiefly of cotton goods.

Portsmouth, the only seaport of New Hampshire, is situated on the right bank of the Piscataqua, about 3 miles from the ocean. The city is built on a beautiful peninsula formed by the river, and is connected by bridges with Kittery in Maine. There is a United States Navy Yard on an island (within the bounds of Maine) in the Piscataqua, opposite Portsmouth.

Dover, Nashua, and Exeter, are noted manufacturing towns. Manchester, on the left bank of the Merrimac, the most important city of the state, is noted for its manufactures.

Hanover, situated about half a mile from the Connecticut, is the seat of Dartmouth College. A bridge crosses the Connecticut at this place to Norwich in Vermont.

LESSON XXV.

MAP STUDIES.—Maine.

State the situation of the following Cities and Towns, viz.:—Houlton, Calais, Eastport, Lubec, Port Machias, Machias, Steuben, Mariaville, Ellsworth, Greenbush, Bangor, Brewer. Hampden, Bucksport, Castine, Belfast, Camden, Warren, Rockland, Thomaston, Wiscasset, China, Waterville, Augusta, Hallowell, Gardiner, Lewiston, Brunswick, Bath, Cumberland, Gorham, Portland, Saco, Biddeford, Kennebunk, Wells, York, Alfred, Hollis, Fryeburg, Bethel, Farmington, Solon, Bingham, Dover, and Lincoln.

MAINE.

Area in sq. miles, 35,000. Population, 583,000. Inhabitants to a sq. mile, 16. Counties, 15.

Geographical Position, etc.—This state, the most north-easterly of the United States, lies between New Brunswick on the east and New Hampshire on the west. Its northern frontier borders on Canada, and its south coast borders on the Atlantic Ocean. The entire length of the state from north to south is about 250 miles, and its greatest breadth 190 miles. The length of sea coast including all the indentations is about 1,000 miles.

Surface, etc.—There is no connected ridge of mountains in the state, but numerous detached elevations extend along the western side of Maine, and then cross the state in a N. E. direction terminating at Mars Hill. From this section the principal rivers flow, some

northwardly to the St. John's, but the greater part southwardly to the Atlantic. Maine abounds in lakes, and it is estimated that nearly one-tenth of the surface of the state is covered with water.

Portland, Maine.

Soil, etc.—The soil is generally best adapted for grazing. Near the sea coast the lands are sandy and generally unsuited to agriculture. The fertile portions lie along the valley of the St. John's, and between the Penobscot and Kennebec Rivers. The climate is subject to great extremes of heat and cold; the winters are long and severe, the lakes being covered with ice from December to April.

Among the most important productions are grain, potatoes, wool, butter, cheese, bees'-wax and honey. The great staple product is lumber. The chief minerals are iron, limestone, granite and slate.

Inhabitants, etc.—The inhabitants are mainly of British descent. A few of the aboriginals still inhabit some of the islands in the Penobscot. The first permanent settlement was made at Bristol (a place not far from the mouth of the Kennebec), in 1625. The chief industrial pursuits are agriculture, lumbering, the coasting trade and the fisheries. From its abundance of suitable timber, Maine has become the greatest ship-building state in the Union.

Manufactures and Exports.—Maine is not so extensively engaged in manufactures as some others of the New England States. The fisheries are extensive. Fish, lumber, butter, cheese, lime, &c., form the

leading articles of export. Cargoes of ice are frequently exported to the West Indies and to the Southern States.

Cities.—AUGUSTA, the capital, is situated principally on the right bank of the Kennebec, which is here crossed by a bridge. On the opposite side of the river are the United States Arsenal and the Insane Hospital. Steamboats ply regularly between Augusta and the principal ports of New England.

EASTPORT is pleasantly situated on the south-east part of Moose Island, which is connected by a bridge with the main land. This place is well situated for trade with the British Provinces. It is an important lumber depôt, and is extensively engaged in the fisheries and in the coast trade.

BELFAST, a seaport town, is largely engaged in ship-building, foreign commerce, the fisheries, and in the coast trade.

BATH, situated on the right bank of Kennebec River, ranks the seventh in the United States in the importance of its shipping.

PORTLAND, a celebrated seaport of Maine, is situated on an elevated peninsula at the west extremity of Casco Bay. This city is largely engaged in commerce, chiefly with Europe and the West Indies, and in the coasting trade. In population, wealth, and commerce, it ranks first in the state. BANGOR, on the right bank of the Penobscot, is said to be the greatest lumber depôt in the world.

LESSON XXVI.

MAP STUDIES.—MASSACHUSETTS.

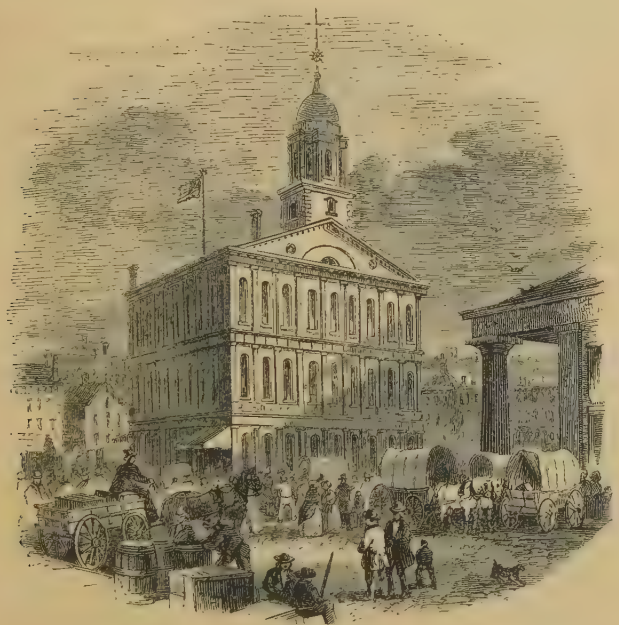
State the situation of the following Cities and Towns, viz.:—North Adams, Greenfield, Northfield, Fitchburg, Lowell, Andover, Lawrence, Haverhill, Newburyport, Gloucester, Salem, Marblehead, Lynn, Woburn, Concord, Cambridge, Charlestown, BOSTON, Roxbury, Dedham, Dorchester, N. Weymouth, Hingham, Abington, Plymouth, Sandwich, Barnstaple, Chatham, Provincetown, New Bedford, Fall River, Taunton, Bridgewater, Milford, Blackstone, Milbury, Chicopee, Springfield, Southampton, Westfield, Sheffield, Great Barrington, Stockbridge, Lee, Pittsfield, Northampton, Amherst, South Hadley, Ware, Leominster, and Worcester.

MASSACHUSETTS.

Area in sq. miles, 7,250. Population, 995,000. Inhabitants to a sq. mile, 137. Counties, 14.

Geographical Position, etc.—This state extends from New York on the west, to the Atlantic on the east, and from Vermont and New

Hampshire on the north, to Rhode Island and Connecticut on the south. The length of the state is about 150 miles and its average breadth 50.



Faneuil Hall.

Surface, etc.—The surface is generally hilly and in some parts rugged. The north-eastern, eastern, and middle portions are hilly and broken; the south-eastern, level and sandy; and the western, mountainous.

The Green Mountain Range enters Massachusetts from Vermont, and forms two ridges which run parallel to each other southwardly into Connecticut. The state abounds in picturesque scenery. The view of the Connecticut River and Valley, from Mount Holyoke, is really beautiful.

Soil, etc.—The soil, though not generally favorable to agriculture, yet by the skill and industry of the inhabitants, has been forced to yield a rich return to the husbandman. The most fertile portions are

in the centre of the state and along the valleys of the Connecticut and Housatonic. The climate is severe in winter; and in the spring, easterly, chilling winds prevail. The summers are exceedingly pleasant.

Grain is produced, but not in sufficient quantities for home consumption. The most important products are Indian corn, oats, potatoes, butter and cheese. Massachusetts is not considered rich in minerals. Sienite and granite, however, abound in the eastern and middle parts, and marble and limestone in the western.

Natural Curiosities.—Among these may be mentioned the Natural Bridge on Hudson's Brook, in the township of Adams, in the north-west part of the state, the Ice Hole in Stockbridge, a narrow, deep, romantic ravine, where the ice remains the year round, and a large rock (weighing some 40 tons), in the village of New Marlborough in the south-west part of the state. This rock is so nicely balanced that a finger can move it.

Inhabitants, etc.—This state was first settled by a company of English Puritans, whom religious persecution had driven to Holland. They subsequently emigrated to America, and established their first settlement at Plymouth, December 20th, 1620. The revolutionary contest commenced in this state. The leading objects of pursuit are commerce, manufactures and the fisheries. In commerce this state ranks second only to New York among the states of the Union.

Manufactures and Exports.—In manufactures Massachusetts exceeds any of the other states in the Union. Among these may be mentioned, cotton and woolen goods, leather, boots and shoes, woodenware, tinware, paper, carpeting, &c. These form the leading exports. Granite, marble, ice, whale oil and fish are also exported in consider able quantities.

Cities.—Boston is the largest seaport in the New England States, and the second commercial city in the Union. It is situated at the head of Massachusetts Bay near the confluence of Charles and Mystic Rivers. The City consists of three parts, Boston proper, East Boston, and South Boston. Boston proper is situated on a peninsula which is connected by an isthmus ("Neck" it is called), with the mainland of Roxbury on the south.

Boston is the great literary as well as commercial metropolis of New England. Among the public buildings, the State House, from its position, is the most conspicuous. It stands on the summit of Beacon Hill, in front of a beautiful park of about 50 acres, called the com-

mon. Faneuil Hall, an ancient brick edifice in Dock Square, is styled the "Cradle of Liberty," from the fact that patriotic meetings were held there during the Revolution.

The streets of the city are generally irregular and narrow. Washington and Tremont streets are the fashionable promenades. The wharves and warehouses of Boston are on a scale of magnitude surpassed by no other city of equal population.

Springfield, on the left bank of the Connecticut, is one of the handsomest and most flourishing inland towns of the state. A United States Arsenal is established here.

The United States Arsenal, Springfield.

Lowell, from the amount and variety of its manufactures, has been styled "the Manchester of America." It is situated on the right bank of the Merrimac. Cambridge and Charlestown are connected with Boston by bridges.

Lawrence, about 12 miles from Lowell, is largely engaged in manufactures. Salem has a good harbor and ranks high among the cities of New England in commercial importance.

Lynn, a city and seaport, situated on the north-east shore of Massachusetts Bay, is celebrated for the manufacture of shoes.

New Bedford is situated on a small estuary of Buzzard's Bay. This city has a greater amount of tonnage employed in the whale fishery than any other port in the Union.

Worcester is pleasantly located in a valley environed by beautiful hills. It is handsomely laid out and contains numerous fine structures. This city is one of the most important thoroughfares in the state.

LESSON XXVII.

MAP STUDIES.—Rhode Island.

Describe the situation of the following Cities and Towns, viz.:—Gloucester, Smithfield, Pawtucket, *Providence, *Pawtuxet, *Warren, *Bristol, *Tiverton, South Kingston, Coventry, Scituate, *Warwick, *East Greenwich, and Newport.

* For the places marked with an asterisk, see Providence, on the Chart of the Principal Cities of the United States.

RHODE ISLAND.

Area in sq. miles, 1,200. Population, 148,000. Inhabitants to a sq. mile, 122. Counties, 5.

Geographical position, etc.—This state lies between Massachusetts and Connecticut. Its greatest length from north to south is about 47 miles, and its greatest breadth 37.

Surface, etc.—On the coast it is generally level, but in the west and north-west it is mostly hilly and rocky. There are no mountains in the state and no extensive forests. Though there are no large rivers in the state, yet it is plentifully supplied with numerous small streams, affording ample water power, which is extensively applied to manufacturing purposes.

Soil, etc.—The soil is in some parts poor and difficult of cultivation, but along the bay and on the islands it is fertile. The climate, from the proximity of the entire state to the sea, is rendered less severe than that of Massachusetts. This state is noted for its fine cattle and also for its apples. The island of Rhode Island is particularly celebrated for its cattle, sheep, butter and cheese. Rhode Island is not considered rich in minerals. Some coal, iron, limestone and marble, are found in different parts of the state.

Inhabitants, etc.—The inhabitants are chiefly of British descent.

This state was first settled at Providence in 1636, by Roger Williams. The leading objects of pursuit are manufactures, commerce and agriculture. Cattle rearing and the dairy occupy the chief attention of the farmers.

Manufactures and Exports.—Rhode Island, in proportion to her population, ranks first in the product of her cotton, and second in that of her woolen manufactures. This state is largely engaged in the coasting trade, and carries on a fair share of foreign commerce. The exports are chiefly cotton and woolen goods, butter, cheese and apples.

Cities.—PROVIDENCE, the semi-capital of the state, is situated on the north-western arm of Narragansett Bay or Providence River. The river divides the city into two nearly equal portions, which are connected by bridges.

The manufactures of Providence and its vicinity, are very extensive. From its advantageous position it is largely engaged in commerce; foreign commerce however has considerably declined. The city is highly distinguished for its literary and educational institutions.

NEWPORT, the semi-capital of the state, is situated on the west side of the Island of Rhode Island, at the mouth of Narragansett Bay, about 5 miles from the ocean. Its harbor is one of the best on the United States coast. Its fine sea air and attractive scenery render it one of the most celebrated watering places in the Union.

The Old Stone Mill, Newport.

Rhode Island, on which the city is situated, from its beauty and fertility is styled the "Eden of America."

SMITHFIELD, the largest township in the state, comprises several manufacturing villages; the most important are Woonsocket, Slatersville, and Valley Falls.

PAWTUCKET, situated on both sides of Pawtucket River, lies partly in this state and partly in Massachusetts. It is extensively engaged in manufactures, principally of cotton goods and machinery.

BRISTOL, situated on a peninsula in Narragansett Bay, has a good harbor, and is largely engaged in the coasting trade and the fisheries. About one-fourth of the entire population are engaged in horticulture.

LESSON XXVIII.

MAP STUDIES.—CONNECTICUT.

State the situation of the following Cities and Towns, viz.:—Salisbury, Litchfield, Winsted, Granby, Windsor, Enfield, Thompson, Killingly, Brooklyn, Plainfield, Stonington, Groton, New London, Norwich, East Haddam, Middletown, Haddam, Saybrook, Guilford, NEW HAVEN, Derby, Bridgeport, Fairfield, Norwalk, Stamford, Newton, Danbury, New Milford, Waterbury, New Britain, HARTFORD, and Willimantic.

CONNECTICUT.

Area in sq. miles, 4,750. Population, 371,000. Inhabitants to a sq. mile, 78. Counties, 8.

Geographical Position.—Connecticut, the most south-westerly of the New England States, lies between New York and Rhode Island. It is about 90 miles in length, and its greatest breadth about 70.

Surface, etc.—Much of the surface is hilly and rugged. This state is crossed by a succession of groups and eminences rather than by a continuous range. The Green Mountain range from Vermont and Massachusetts, crosses the state and terminates near New Haven. On the east of the Connecticut Valley, both in Massachusetts and Connecticut, there are some eminences which appear to be a continuation of the White Mountains of New Hampshire.

The state is abundantly supplied with water power, though but few of the rivers are navigable.

Soil, etc.—The soil is generally fertile, and in the eastern and north-western parts, is best adapted to grazing. The climate is similar to that of Rhode Island. Though subject to sudden changes yet it is remarkably salubrious. Vegetation commences a little earlier in the spring than in most of the New England States.

Among the productions may be mentioned Indian corn, oats, potatoes, tobacco, butter, cheese, and live stock. Iron, copper, and marble are found in various parts of the state, and a valuable lead mine has recently been discovered near Middletown.

Inhabitants, etc.—The inhabitants, in common with those of the other states of New England, are mainly of British origin. The state originally consisted of two colonies;—Hartford, settled in 1635, by emigrants from Massachusetts, and New Haven, by emigrants from England in 1638. The two colonies were united in 1665. The chief industrial pursuits are agriculture, manufactures, and the whale fishery.

Manufactures and Exports—The manufactures are both varied and extensive. Wooden, copper, iron, tin and brass ware; hats, shoes, coaches, a variety of hardware, combs, buttons, etc., are among the chief articles of manufacture. The exports consist chiefly of manufactured articles. The foreign commerce of the state is mainly carried on through the ports of Boston and New York.

Cities.—Hartford, the semi-capital of the state, is situated on the right bank of the Connecticut, about 50 miles from its mouth. Among its public buildings, we may mention the State House, the Asylum for the Deaf and Dumb, the Retreat for the Insane, Wadsworth Athenæum and Trinity College. As a manufacturing city, Hartford ranks high, and as a place of commerce it has many advantages.

New Haven, alternately with Hartford the seat of Government, is situated at the head of New Haven Bay, about 4 miles from Long Island Sound. This city is considered one of the handsomest in the Union. It is also noted for being the seat of Yale College.

The falls at Norwich.

Norwich is built on a steep declivity on the River Thames. This town is noted for its manufactures.

New London, on the right bank of the Thames, 3 miles from its entrance into the Sound, has a very fine harbor, and is noted for being largely engaged in the coasting trade and in the whale fisheries.

Middletown is a busy city, situated on the right bank of the Connecticut, at the head of ship navigation. The Wesleyan University is located here.

Bridgeport, a small but flourishing city, is situated on an arm of Long Island Sound, at the mouth of Pequannock River. Its manufactures are extensive, particularly of carriages.

LESSON XXIX.

MAP STUDIES.—Systematically Arranged.

THE EASTERN, OR NEW ENGLAND STATES.

Describe the following Islands, viz.:—Mount Desert, Deer, Fox, Nantucket, Martha's Vineyard, Block, Gardiner's, and Fisher's.

Describe the following Capes, viz. :—Small Point, Elizabeth, Ann, Cod, Malabar, and Judith.

Describe the following Mountains, viz. :—Green,—White, Washington,—Mars Hill, Katahdin, Baker,—Wachusett, Holyoke, and Tom.

Describe the following Bays, viz. :—Passamaquoddy, Machias, Narragaugus, Frenchman's, Penobscot, Casco, Saco, Massachusetts, Cape Cod, Buzzard's, and Narragansett.

Describe the following Lakes, viz. :—Champlain, Memphremagog, Grand, Schoodic, Sebois, Chesuncook, Moosehead, Moosetockmaguntic, Umbagog, Ossipee, Winnipiseogee, and Connecticut.

Describe the following Rivers, viz. :—Otter, Onion, Lamoille, Missisque,—St. John's, Allagash, Aroostook,—St. Croix, West Machias, Union, Penobscot, Sebois, Mattawamkeag, Piscataquis,—Kennebec, Sebasticook, Dead, Sandy, Androscoggin,—Saco, Ossipee, Piscataqua, Salmon Falls, Cocheco, Merrimac, Pemigewasset, Concord,—Charles, Taunton, Blackstone, Pawcatuck, Thames, Quinnebaug, Willimantic,—Connecticut, Ammonoosuc, Ashuelot, Miller's, Chicopee, Ware, White, West, Deerfield, Westfield, Farmington,—Housatonic, and Naugatuck.

LESSON XXX.

STUDIES ON THE MAP OF THE NORTHERN, or MIDDLE STATES.

SYSTEMATICALLY ARRANGED.

Bound the following States, viz. :—New York, New Jersey, Delaware, and Pennsylvania.

State the situation of the following Cities and Towns, viz. :—Rochester, Palmyra, Pultneyville, Lyons, Oswego, Pulaski, Martinsburg, Sackett's Harbor, Watertown, Cape Vincent, Ogdensburg, Malone, Rouse's Point, Plattsburg, Keeseville, Whitehall, Caldwell, Glenn's Falls, Sandy Hill, Saratoga, Ballston Spa, Johnstown, Schenectady, Lansingburg, Troy, Albany, Schoharie, Kinderhook, Hudson, Catskill, Kingston, Poughkeepsie, Fishkill, Newburg, Peekskill, Sing Sing, Yonkers, Rye, Goshen, Port Jervis, Monticello, Deposit, Delhi, and Binghamton.

PART II.

State the situation of the following Cities and Towns, viz. :—Oxford, Owego, Ithaca, Elmira, Jefferson, Corning, Bath, Hornellsville, Angelica, Portage, Cuba, Olean, Jamestown, Maysville, Dunkirk, Hamburg, Buffalo, Black Rock, Lewiston, Lockport, Batavia, Le Roy, Warsaw, Genesee, Mount Morris, Canandaigua, Penn Yan, Geneva, Waterloo, Ovid, Auburn, Skaneateles, Syracuse, Cazenovia, Rome, Booneville, Whitesboro, Utica, Canajoharie, Cooperstown, Norwich, Cortland, and New York.

Congress Spring, Saratoga.

LESSON XXXI.

NEW YORK.

Area in sq. miles, 46,000. Population, 3,100,000. Inhabitants to a sq. mile, 67. Counties, 60.

Geographical Position.—New York, the most northerly of the Middle States, lies directly west of New England.

Surface, etc.—New York presents a great variety of surface. The Adirondack Mountains on the north-east separate the waters which flow into Lake Ontario and the St. Lawrence, from those which flow into Lake Champlain and the Hudson River. South of the great valley of the Mohawk, are the Catskill and Shawangunk Mountains, separating the rivers which flow southwardly to Delaware and Chesapeake Bays, from the streams which empty into the Hudson.

The western section of the state, beyond the central group of lakes, rises gradually from Lake Ontario till it attains its greatest elevation near the border of Pennsylvania. Lake Chautauque is about 2,000 feet above the level of the sea.

Soil, etc.—The soil is various. The most fertile districts are the valleys of the Hudson and Mohawk, and most of the western section

of the state. In the northern part of New York the winter is long and severe, in the south-east the cold and heat are somewhat modified by sea air, and in the west by the proximity of the great lakes and the prevalence of southerly winds.

Brooklyn.

Wheat is the staple production. The other important products are oats, potatoes, buckwheat, rye, barley, grass-seeds, orchard products, maple sugar, bees'-wax, honey, dairy produce, wool and live-stock.

Iron-ore is abundant, and salt springs are numerous. The mineral springs of Ballston and Saratoga are celebrated for their medicinal properties. Valuable mineral deposits exist in various sections of the state.

Natural Curiosities.—The Falls of Niagara, which occur in a river of the same name, are about 22 miles below Lake Erie, and 14 miles above Lake Ontario. The mighty volume of water which is the outlet of the great Lakes, Superior, Michigan, Huron, and Erie, is here precipitated over a ledge of rocks 160 feet in height, forming the most grand and stupendous Cataract in the world.

The Cohoes Falls, in the Mohawk, about 2 miles above its mouth, are exceedingly romantic and beautiful. The Genesee Falls, in a river of the same name, at Rochester, consist of 3 distinct falls of 60, 90, and 110 feet each.

Inhabitants, etc.—The Hudson River was discovered by Henry

Hudson, an Englishman, in the Dutch service, in the year 1609; but no permanent settlement was made in this state till 1614, when the Dutch founded Fort Orange, now Albany, and New Amsterdam, now called New York City.

The inhabitants consist chiefly of Europeans and their descendants. The leading industrial pursuits are commerce, agriculture, and manufactures. In commerce and agriculture this state ranks the first in the Union.

Manufactures and Exports.—Though New York is largely engaged in manufactures, she does not rank equal to some of her sister states in this respect. The exports consist mainly of domestic produce. In the year 1850 these amounted to upwards of $50,000,000; of which, about four-fifths was the value of domestic produce.

Cities.—ALBANY, the capital, stands on the right bank of the Hudson, 145 miles from New York City. Part of the city bordering on the river, is a low flat; but beyond this, the surface rises rapidly to an elevation of about 200 feet. Most of the public buildings are located in the upper portion of the city.

Albany is advantageously situated both for inland trade and commerce; being connected by the Erie Canal with the great western lakes, and by the Hudson River with the commercial metropolis of the Union, and with the ocean. It is also connected by railway with many important cities and towns.

ROCHESTER, is situated on both sides of Genesee River, about 7 miles south of its entance into Lake Ontario. The unlimited water power afforded by the river (which, within the city limits, has a descent of nearly 300 feet, consisting of 3 successive perpendicular falls), is used by various mills and factories, but chiefly by flouring-mills, which form the principal business establishments of the city.

OSWEGO, a port of entry, situated on the south-east shore of Lake Ontario, and on both sides of Oswego River, is largely engaged in trade with Canada.

TROY is situated on both sides of the Hudson, about 6 miles north of Albany. The principal part of the city lies on the left bank of the river. The two parts are connected by means of a bridge, which here spans the Hudson. The transhipment of goods forms the principal commercial business of the place. Iron, machinery, and hardware constitute the chief manufacturing establishments of the city. A United States Arsenal is situated at West Troy.

POUGHKEEPSIE is situated on the east bank of the Hudson, nearly

equi-distant from Albany and New York. It is largely engaged in a great variety of manufactures, and carries on an extensive trade with the surrounding districts.

The Free Academy, New York City.

New York, the chief commercial emporium of the New World, is situated on Manhattan Island, at the head of New York Bay, and at the confluence of the Hudson and East Rivers, about 18 miles from the Atlantic Ocean. The island on which the city stands, is separated from the mainland by Harlem River, a small, but navigable strait, of about 8 miles in length, connecting the Hudson and East Rivers.

This island is 13½ miles in length, and its greatest breadth a little over 2. The densely inhabited part of the city occupies about 4 miles of the southern portion of the island.

The Battery, an open space of about 10 acres, beautifully shaded with trees, is situated at the southern extremity of the city, directly in front of the harbor. From this park extend several streets run-

ning parallel, or nearly so, with the Hudson; the most important of which, as an avenue of business and a fashionable promenade, is Broadway. On this street, about three-quarters of a mile from the Battery, is the Park, a fine enclosure of about 10 acres. In the centre of the Park stands the City Hall, a handsome edifice of white marble. Several other parks ornament the city.

Among the other public buildings, may be mentioned the Custom House, the Merchants' Exchange, Trinity Church, the Halls of Justice, the Odd Fellows' Hall, the Astor Library, the Bible House, Columbia College, the University, the Free Academy, the Crystal Palace, and the New State Arsenal. Hotels, churches, and charitable institutions are numerous.

One of the most important works in the state is the Croton Aqueduct, by means of which the city is abundantly supplied with good wholesome water. It is brought from the Croton River, a distance of over 40 miles, and distributed to almost every house in the city. The wharves on both sides of the city are literally crowded with vessels from every civilized maritime nation on the globe.

Buffalo, situated at the outlet of Lake Erie, and at the head of Niagara River, is the great entrepot between the north-west and the states of the Atlantic sea-board. It is regularly and handsomely built, partly on an elevation and partly on low ground.

Utica, located on the Mohawk River, is an important trading city, being surrounded by a highly productive and populous country. It is also a place of considerable manufacturing industry.

Syracuse, situated on the east bank of Onondaga Creek, near its entrance into Onondaga Lake, is noted as the seat of the most extensive and valuable salt manufactories in the United States.

ISLANDS FORMING A PART OF THE STATE OF NEW YORK.

LESSON XXXII.

MAP STUDIES.—Long Island.

Describe the following Islands, viz.:—Long and Staten.

Remark to the Pupil.—For Long Island, see the "Map of New England;" and for Staten Island, see "New York, and its Vicinity," on the Chart of the Principal Cities of the United States.

State the situation of the following Cities and Towns, viz.:—Brooklyn, Newtown, Flushing, Oyster Bay, Huntington, Greenport,

Sag Harbor, Southampton, Patchogue, Hempstead, Jamaica,—Tompkinsville, Richmond, and Rossville.

LONG ISLAND.

Area in sq. miles, 1,450. Population, 210,000. Length, 115 m. Greatest breadth, 20 m. Number of Counties, 3.

Geographical Position.—This island is separated from the continental part of the state by a strait about three-quarters of a mile in width, called East River, and by Long Island Sound.

Surface, etc.—A ridge or chain of hills, nowhere exceeding 300 feet in height, traverses the island from east to west. The surface north of the ridge is considerably broken, while on the south side it forms a gently sloping plain to the Atlantic.

This island is very important for its market products; and the numerous bays that indent the coast abound in fine fish, oysters, clams, &c.

Cities.—Brooklyn, the principal seaport city on the island, is situated at its western extremity, on the south-east side of East River, which separates it from New York City. It is a finely built and pleasantly located city. A United States Navy Yard is located at Brooklyn.

The view, from this city, of the Bay of New York, and the islands that stud its surface, particularly Governor's Island with its fortifications, is exceedingly fine. The river between this city and New York is crossed every few minutes by steam ferry boats.

STATEN ISLAND.

Length, 14 miles. Breadth, from 4 to 8 miles. Population, 15,000. Area in sq. miles, 63. Number of Counties, 1.

Geographical Position, etc.—This island lies in New York Bay, about 6 miles south-west of New York City.

Surface, etc.—The northern part of the island, called Richmond Hill, is elevated about 300 feet above the ocean. The villages along the shores of the island contain many splendid country seats of New York citizens.

The fisheries on the coast are very valuable. The Quarantine station for the port of New York is located on the north-east point of the island. Steam ferries connect the island with New York City. The island forms Richmond County, and Richmond is the county town.

LESSON XXXIII.

MAP STUDIES.—New Jersey.

Describe the situation of the following Cities and Towns:—Newton, Paterson, *Hackensack, *Bloomfield, *Hoboken, *Jersey City, Newark, *Orange, *Springfield, *Elizabeth Port, *Elizabethtown, *Plainfield, *Rahway, *Perth Amboy, South Amboy, Keyport, Shrewsbury, Freehold, Squan, Tuckerton, Absecom, Tuckahoe, Millville, Bridgeton, Salem, Woodbury, Camden, Medford, Mount Holly, Burlington, Bordentown, Trenton, Princeton, Belvidere, Morristown, and New Brunswick.

Remark.—For the towns marked with an asterisk, see the Map of "New York, and its Vicinity," on the Chart of the Principal Cities in the United States.

The Passaic Falls, New Jersey.

NEW JERSEY.

Area in sq. miles, 6,850. Population, 490,000. Inhabitants to a sq. mile, 71. Counties, 20.

Geographical Position, etc.—New Jersey occupies a peninsula, situated south of New York, and east of Pennsylvania, from which it is separated by the Delaware. It is about 170 miles in length, and from 37 to 70 miles in breadth.

Surface, etc.—In the central and northern parts it is undulating, hilly, or mountainous. The entire eastern coast from Sandy Hook to Cape May consists of a line of sandy beaches, broken here and there

by small inlets,—back of which the surface is, for the most part, either marshy or sandy. The rivers are generally small, and not well suited to navigation. The railroads that cross this state render it the great thoroughfare between the North and South sections of the Union.

Soil, etc.—The soil varies materially with the topography of the country. The northern portion is moderately fertile, and well adapted both to tillage and pasturage. The central and southern sections of the state are light and sandy, requiring considerable care to render it profitable to industry.

The climate is somewhat milder than that of New York, owing to its being open to the influence of the sea air. The chief productions are grain, orchard and market products, butter, cheese, and live-stock. Apple and peach orchards are numerous. Cider is made in considerable quantities in the vicinity of Newark.

On the sea-coast, near Staten Island, are extensive and valuable oyster-beds; the shad fisheries along the Atlantic coast and the Delaware River are also extensive. The chief minerals of the state are bog-iron ore, zinc and marl.

Natural Curiosity.—The Passaic Falls, which occur in a river of the same name, near Paterson, are about 70 feet in perpendicular height. The scenery in the vicinity is remarkably picturesque and beautiful.

Inhabitants, etc.—This state was first settled by the Dutch at Bergen about the year 1614. Subsequently the Swedes attempted a settlement near the shores of the Delaware, but they were finally driven off by the Dutch. The English, also, obtained possession, and retained it, with some interruptions, till the Revolution. The chief industrial pursuits are agriculture, manufactures and mining.

Manufactures and Exports.—The manufactures are varied and important; among them are cotton, wool, iron, paper, leather, brick, glass and earthenware. The *direct* exports to foreign countries from this state are of little importance in the aggregate commerce of the Union; most of the foreign commercial business being transacted at the ports of New York and Philadelphia.

Cities.—TRENTON, the capital, lies on the left bank of the Delaware, at the head of steamboat navigation. The railroad and steamboat connections of this city render it not only a great throughfare, but the centre of an extensive trade. It also possesses abundant water-power from the Falls of the Delaware, and is becoming one of the first manufacturing places in the state.

Among the public buildings of the city, may be mentioned the State House, which is beautifully situated, near the Delaware; the Court House, the State Lunatic Asylum, and the State Penitentiary. A covered bridge crosses the Delaware at this place, connecting New Jersey with Pennsylvania.

Newark, New Jersey.

Paterson, situated on the right bank of the Passaic, immediately below the Falls of the same name, is the second city of the state in population and manufactures. By means of the Morris Canal it communicates with the Atlantic ports and the Delaware River, and by railway with Jersey City and New York.

Jersey City is located on the right bank of the Hudson, at its entrance into New York Bay. Several large ferry-boats ply between this city and New York, which lies on the opposite bank of the river. The Cunard line of ocean steamships runs from this port to Liverpool.

Newark, situated on the right bank of the Passaic, about 14 miles above its entrance into Newark Bay, is the largest and most flourishing city in the state. This city is extensively engaged in manufactures; among which, we may mention paper-hangings, clothing, carriages, and the various fabrics of leather and India-rubber.

New Brunswick, situated on the right bank of the Raritan, is the depot of a fertile district, and has considerable trade and manufactures. It is noted as being the seat of Rutgers College.

Camden, a city and port of New Jersey, lies on the east bank of

the Delaware, directly opposite Philadelphia, with which it communicates by several steam ferries.

LESSON XXXIV.

MAP STUDIES.—DELAWARE.

State the situation of the following Cities and Towns, viz.:—Newark, Wilmington, New Castle, Delaware City, Smyrna, DOVER, Milford, Lewes, Georgetown, Dagsboro, and Seaford.

DELAWARE.

Area in sq. miles, 2,120. Population, 92,000. Inhabitants to a sq. mile, 43. Counties, 3.

Geographical Position, etc.—Delaware, the smallest state in the Union, except Rhode Island, is situated south of Pennsylvania, and south-west of New Jersey. Its length is about 96 miles, and its greatest breadth about 37.

Surface.—It is generally level, but in the northern part it is somewhat hilly and rugged. There are no mountains in the state. A ridge of table-land, nowhere more than 70 feet in height, traverses the state from north to south, separating the streams that flow into the Atlantic from those that flow into Chesapeake Bay. This table-land abounds in swamps, in which the streams originate.

Soil, etc.—In the north, and along the shore of Delaware Bay, the soil is rich, well adapted to tillage, and produces considerable quantities of timber. The southern portion is light and sandy. The climate is generally mild, and highly favorable to agricultural pursuits.

The staple productions are wheat, Indian corn and butter. Bog-iron is found in the southern part of the state, and a fine sand, for glass manufacture, near the head of Delaware Bay.

Inhabitants, etc.—This state was first settled in 1627 by the Swedes and Finns. It was subsequently taken by the Dutch, and afterward by the English. About one-fourth of the present inhabitants are blacks. Manufactures and agriculture form the leading pursuits.

Manufactures and Exports.—The manufactures of powder, paper, flour and cotton are very extensive. The exports consist chiefly of flour, lumber, sand for the manufacture of glass, and great quantities of peaches. This state is not largely engaged in commerce.

Cities and Towns.—DOVER, the capital, is situated on Jones' Creek,

about 5 miles above its entrance into Delaware Bay. It carries on a considerable trade with Philadelphia, mainly in flour.

Newark, on Christiana Creek and the Philadelphia, Wilmington and Baltimore Railroad, is noted as being the seat of Delaware College.

Wilmington, a city and port of entry, is situated between Brandywine and Christiana Creeks, 1 mile above their confluence, and 2 miles west of Delaware River. It is the most populous city in the state, and is remarkable chiefly for its manufactures; the water-power for which is afforded by the Falls of the Brandywine. The city is well built, and contains a United States Arsenal, City Hall, several excellent academies, churches, &c.

Lewes, a small town on Delaware Bay, about 45 miles S. E. of Dover, is a place of resort during the bathing season. It lies directly opposite the Delaware Breakwater. This breakwater was constructed by the general government, at an expense of over $2,000,000, to afford shelter for shipping in stormy weather, and also to protect vessels in winter from floating ice.

LESSON XXXV.

MAP STUDIES.—Pennsylvania.

Describe the situation of the following Cities and Towns, viz.:—Erie, Meadville, Warren, Cowdersport, Lawrenceville, Tioga, Blossburg, Athens, Towanda, Montrose, Honesdale, Carbondale, Tunkhannock, Wilkesbarre, Scranton, Milford, Mauch Chunk, Easton, Allentown, Pottsville, Reading, Norristown, Bristol, Philadelphia, Chester, Lancaster, Columbia, Harrisburg, York, Gettysburg, Carlisle, Chambersburg, Lewistown, Huntington, Hollidaysburg, Bedford, Brownsville, Monongahela City, Pittsburg, Birmingham, Alleghany, Beaver, Kittaning, Clarion, Mercer, Franklin, Ridgeway, Emporium, Clearfield, Lock Haven, Ralston, Williamsport, Sunbury, Bellefonte, and Tyrone.

LESSON XXXVI.

PENNSYLVANIA.

Area in sq. miles, 47,000. Population, 2,312,000. Inhabitants to a sq. mile, 49. Counties, 64.

Geographical Position, etc.—This state is situated south of New York, and west of New Jersey, from which it is separated by the Delaware River. The length of the state is about 310 miles, and its greatest breadth about 160.

Surface.—The surface is greatly varied. The great Alleghanian Chain, which passes through this state in several distinct ridges,

naturally divides the state into three distinct regions; viz., the eastern, or Atlantic slope; the great western table-land, declining toward the Ohio; and the mountainous region of the centre.

The Susquehanna River, from New York, crosses the state, dividing it into two unequal portions. This river is not navigable except in the spring and fall, when large quantities of timber are floated down it in rafts. The entire surface of the state is well watered.

Soil, etc.—The soil is generally good, particularly in the valleys. In many places, in the mountainous districts, the land is valuable for pasture.

The climate, though variable, is exceedingly healthy. Among the varied productions of this state may be mentioned grain, orchard fruits, potatoes, butter, wool, and live-stock. Native grapes are abundant. Pennsylvania stands first among the states in the abundance of her coal and iron.

Inhabitants, etc.—The territory of Pennsylvania was granted to William Penn, a celebrated Friend, by James II., of England, in 1681. This benevolent man, when he settled the state in 1682, conciliated the aborigines by purchasing their territory, consequently the settlers were secured from the Indian wars, which greatly harassed most of the other colonies. The first settlement was made where Philadelphia now stands. The leading industrial pursuits of the present population are agriculture, mining and manufactures.

Manufactures and Exports.—Pennsylvania ranks among the first in the Union in the extent and variety of her manufactures. Nearly half the iron produced in the United States, during the year 1850, was manufactured in this state.

The exports consist mainly of flour, Indian corn, lard, butter, coal, iron, &c. In regard to foreign commerce, Pennsylvania ranks fourth among the states of the Union.

Cities.—HARRISBURG, the capital, is delightfully situated on the east bank of Susquehanna River. The public buildings belonging to the state occupy an eminence in the north part of the city.

EASTON, situated on the west bank of the Delaware, immediately above the mouth of the Lehigh, is the entrepôt of a large internal commerce between the coal and iron regions of Pennsylvania and the Eastern markets. It is situated at the junction of several canals, which afford great facilities for the importation and exportation of produce. It has abundance of water-power, and is the seat of extensive manufactories.

PHILADELPHIA, a port of entry, and the metropolis of Pennsylvania, is situated between the Delaware and Schuylkill Rivers, about 5 miles above their confluence, and (following the course of the Delaware) about 100 miles from the ocean. It extends from river to river, and is remarkable for the regularity and cleanliness of its streets and for the neatness of its private dwellings.

The city limits include the entire county of Philadelphia, in which are Manayunk, Germantown, Holmesburg, Tacony, Frankford, and several other towns and villages.

The State House, or Independence Hall, Philadelphia.

The city of Philadelphia proper embraces the districts of Spring Garden, Penn, Kensington and Northern Liberties on the north; Southwark, Moyamensing and Passayunk on the south; and West Philadelphia situated on the west side of the Schuylkill River.

The trade, commerce and manufactures of Philadelphia are very extensive. The Fairmount and Spring Garden water-works, on the Schuylkill, supply the city with water.

The Custom House, Merchants' Exchange, the United States Mint, the State Penitentiary, the Naval Asylum and Girard College are among the prominent public buildings of the city. The State House, or Independence Hall, the building in which the Colonial Congress on July 4th, 1776, declared the independence of the United States, is situated

on Chestnut street. A United States Navy Yard is located on the Delaware, in the district of Southwark.

The benevolent, religious and educational institutions of the city are both numerous and excellent. The first Female Medical and Surgical College ever established, is located in this city.

Lancaster, a pleasantly located inland city, situated about 70 miles west of Philadelphia, is a place of considerable trade, being the main entrepot of the commerce between the seaboard and the interior. The city is surrounded by a very fertile, highly cultivated and populous country.

Pittsburg, Pennsylvania.

Pittsburg is situated at the head of the Ohio, on a triangular piece of land, inclosed by the Alleghany and Monongahela Rivers, which here unite, and form the Ohio. The rapidly increasing population of the city has extended itself to the opposite shores of the rivers, forming several large and flourishing places; the most important being Alleghany City, on the opposite side of the Alleghany River, and Birmingham, on the left bank of the Monongahela.

Both rivers are spanned by bridges, which, with several steam ferry-boats, connect Pittsburg with the suburbs above alluded to. This city is more largely engaged in manufactures than any other in the state except Philadelphia. It is often called "the Birmingham of America," being, like Birmingham in Europe, a noted manufacturing place.

The commerce of Pittsburg is extensive. The principal harbor is furnished by the Monongahela River. By means of the Ohio River, railroads, &c., this city is connected with all the great cities of the "far west," and by canals and railroads with the Atlantic seaboard.

Erie, a port of entry on Lake Erie, is noted for its fine harbor, being one of the best and safest on the Lake.

Reading, a handsome city, situated on the east bank of the Schuylkill, ranks the third in the State with respect to population and manufactures.

LESSON XXXVII.

MAP STUDIES.—Systematically Arranged.

THE NORTHERN, OR MIDDLE STATES.

Describe the following Capes, viz.:—Sandy Hook, May, Henlopen, and *Montauk Point.

Describe the following Mountain Ranges, viz.:—Adirondack, Catskill, Shawangunk, Schooleys, Blue, Alleghany, Laurel, and Chestnut.

Describe the following Bays, viz.:—† New York, Newark, Raritan, and Delaware.

Describe the following Straits, viz.:—East River, Narrows, the Kills, and Staten Island Sound.

Describe the following Lakes, viz.:—Canandaigua, Crooked, Seneca, Cayuga, Owasco, Skaneateles, Onandaga, Oneida, Black, Racket, Long Saranac, Schroon, George, Champlain, and Chautauque.

Describe the following Rivers, viz.:—Cattaraugus Creek, Niagara, Genesee, Allen's Creek, ‡ Oswego, Clyde, Seneca, Oneida,—Salmon, Black, Indian, Oswegatchie, Racket, St. Regis, Salmon, Saranac, Au Sable, Hudson, Schroon, Mohawk, Scoharie, Esopus, Walkill,—Passaic, Raritan, Little Egg Harbour, Great Egg Harbour, Maurice, Delaware, West Branch, East Branch, Lehigh, Schuylkill, Brandywine Creek,—Susquehanna, Lackawanna, Chenango, Tioughnioga, Chemung, Conhocton, Tioga, Canisteo, West Branch of Susquehanna, Juniata, Frankstown Branch, Raystown Branch, Monongahela, Alleghany, Clarion, Conewango Creek, French Creek,—Jones Creek, and Mispillion Creek.

* See east end of Long Island, on the map of New England.

† For the first three Bays, and for the Straits, see "Map of New York and Vicinity."

‡ The Oswego is formed by the junction of Seneca and Oneida Rivers; flows a northwesterly course, and empties into Lake Ontario. The Seneca, after receiving the surplus waters of several lakes, flows into the Oswego.

LESSON XXXVIII.

STUDIES ON THE MAP OF THE SOUTHERN STATES.

SYSTEMATICALLY ARRANGED.

Bound the following States, viz.:—Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Texas.

Describe the situation of the following Cities and Towns, viz.:—* Cumberland, Williamsport, Hagerstown, Emmetsburg, Westminster, Havre de Grace, Elkton, Chester Town, Easton, Cambridge, Snow Hill, Princess Anne, Leonard Town, Port Tobacco, Rockville, Frederick, Ellicott's Mills, Baltimore, and ANNAPOLIS.

* See Map of "Middle States," for the Cities and Towns in Maryland.

MARYLAND.

Area in sq. miles, 11,000. Population, 583,000. Inhabitants to a sq. mile, 53. Counties, 21.

Geographical Position, etc.—This state, the most north-easterly of the Southern States, is situated south of Pennsylvania, and north-east of Virginia, from which it is separated by the Potomac. Its greatest length along its northern boundary is about 190 miles, and its greatest breadth, from north to south, is about 120 miles.

Surface.—Maryland includes three distinct geographical regions; first, that portion lying east of the Susquehanna River and Chesapeake Bay (usually called the Eastern shore); second, that part between Chesapeake Bay and the Potomac; and, third, the mountainous district of the north-west. The surface on both shores of the bay is level.

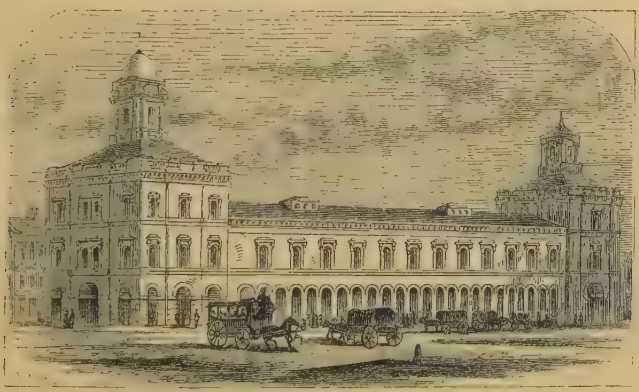
Soil, etc.—The soil, in the valleys of the northern and middle parts of the state, is highly fertile; that of the eastern and a part of the western shore requires considerable care to make it productive.

The climate in the north, is similar to that of Pennsylvania; but in the south, the winters are milder, and the summers are hot, moist, and unhealthy. In the amount of tobacco produced, Maryland ranks third in the Union; the other great staples are wheat and Indian corn. The mineral products are iron and coal.

Inhabitants, etc.—The first settlers were English, and the first settlement was made in 1634, at St. Mary's, on the Potomac River. This state was named in honor of Henrietta Maria, the queen of Charles I.

The leading industrial pursuits of the present population, are agriculture, manufactures and commerce.

Manufactures and Exports.—Among the leading manufactures are cotton, woolen, iron, leather, glass, shot and powder. The prime articles of foreign export are flour, grain, pork and tobacco.



Mechanics' Institute, Baltimore.

Cities.—Annapolis, the capital, is situated on the right bank of the Severn, about 3 miles above its entrance into Chesapeake Bay. It contains a fine State House, and a United States Naval Academy. St. John's College is also located here. In the State House, the old Continental Congress held some of its sessions, and the Senate Chamber, where General Washington resigned his commission, at the close of the Revolutionary war, has been preserved unaltered.

Cumberland, situated on the left, or north bank of the Potomac, about 180 miles distant from Baltimore, is noted for its trade in coal. In respect to population, it is not surpassed by any other city in the state except Baltimore.

Frederick City is situated about 2 miles west of Monocacy River, a stream which flows south-west, and empties into the Potomac River.

This city ranks second in the state in wealth and commercial importance, and third in population. The valley of Monocacy River is remarkable, not only for its beauty, but for its agricultural resources and its mineral wealth.

Frederick is the depot of this district, and carries on an extensive commerce and a large wholesale and retail trade.

BALTIMORE, the metropolis of the state, lies upon a bay which sets up from the Patapsco River. It is pleasantly situated on slightly undulating ground around the bay, and is regularly laid out.

The city is ornamented with numerous monuments and fountains. It is often called "The Monumental City." It is also distinguished as being the greatest market for tobacco in the United States, and the principal flour market in the world.

The principal public buildings of the city, are the City Hall, the State Penitentiary, the House of Refuge, the Mechanics' Institute, and the Roman Catholic Cathedral.

LESSON XXXIX.

MAP STUDIES.—VIRGINIA.

State the situation of the following Cities and Towns, viz.:—Wheeling, Elizabethtown, Morgantown, Fairmount, West Union, Clarksburg, Woodstock, Strasburg, Winchester, Harpers Ferry, Leesburg, Alexandria, Warrenton, Fredericksburg, Tappahannock, RICHMOND, Manchester, Yorktown, Hampton, Norfolk, Portsmouth, Jerusalem, Petersburg, Clarksville, Halifax, Danville, Lynchburg, Abingdon, Estillville, Jonesville, Logan, Fayetteville, Charleston, Winfield, Guyandotte, Point Pleasant, Parkersburg, Monterey, Staunton, Charlottesville, Lexington, Covington, and Lewisburg.

VIRGINIA.

Area in sq. miles, 61,350. Population, 1,422,000. Inhabitants to a sq. mile, 23. Counties, 140.

Geographical Position, etc.—Virginia lies south of Pennsylvania and the Potomac River, and north of the states of Tennessee and North Carolina. The average length of the state is about 350 miles, and its average breadth about 220 miles.

Surface.—It is generally divided into four physical sections;—first, the tide-water district, bordering on Chesapeake Bay and the Atlantic Ocean; second, the Piedmont district, which extends from the head of tide-water on the rivers, westward to the Blue Ridge; third, the valley between the Blue Ridge and the Alleghany; and fourth, the Trans-Alleghany district, comprising all that part of the state westward of the Alleghany Mountains.

Soil, etc.—In the tide-water district, the soil is poor except along the banks of the rivers; the Piedmont section is well adapted to the growth of Indian corn, tobacco and cotton; the valley district is

generally fertile; and between the mountains and the Ohio the soil is for the most part inferior.

The extent of the state and its varied topography, produce a great variety of climate. Along the coast it is hot and moist, while it is cool and salubrious in the mountainous districts. The staple products are wheat, corn, and tobacco. Coal and iron are abundant, and salt and sulphur springs are very numerous.

Harper's Ferry, Virginia.

Natural Curiosities.—The Natural Bridge, over Cedar Creek, near its junction with James River, about 120 miles west of Richmond, is regarded as one of the greatest natural curiosities in the world. This bridge of limestone rock spans a chasm of 90 feet in width, at the distance of about 215 feet above the surface of the creek. The average width of the bridge is 80 feet, and its thickness 55 feet. Wier's Cave, about 18 miles north-east of Staunton, is also a noted natural curiosity. It extends 1,260 feet into the ground, and contains about 20 large rooms, besides numerous passages and galleries.

Inhabitants, etc.—Virginia was first settled by the English, and the present inhabitants are mainly of English descent. The first permanent English settlement in our country was established at Jamestown, about 30 miles above the mouth of James River, in 1607. The leading industrial pursuit is agriculture.

Manufactures and Exports.—This state is not noted for manufactures. Its commerce consists mainly in the exportation of agricultural products. Oysters form an important article for export.

Cities.—Richmond, the capital, is situated on the north-east bank of James River. The city is built on several hills, affording a delightful prospect of the surrounding country, which is said to combine in a high degree the elements of grandeur, beauty and variety. This city possesses abundance of water-power, which is used to a considerable extent for the manufacture of flour, tobacco, cotton, and iron-ware.

Wheeling, a port of entry, situated on the east bank of the Ohio, is the most important city on that river, between Pittsburg and Cincinnati. The river is here crossed by a suspension bridge. Wheeling is noted for manufactures and enterprise in trade.

Alexandria, a port of entry, is pleasantly located on the right bank of the Potomac, about 5 miles below the city of Washington. At this place is owned a considerable amount of shipping, in which are exported wheat, corn, tobacco, and coal. Steamboats ply regularly between Washington and this port.

Norfolk, situated on the right or north bank of Elizabeth River, 8 miles above its entrance into Hampton Roads, is the chief commercial port of Virginia. This city communicates with New York and Philadelphia by regular lines of ocean steamers.

Portsmouth, on the opposite side of the river, is noted for its fine harbor, and for its being an important naval depot of the United States. The navy yard is at Gosport, a suburb of Portsmouth. Between Portsmouth and Norfolk, ferry-boats ply constantly, and a daily line of steamboats communicates with the capital of the state.

Lynchburg is finely situated on elevated ground, on the south bank of James River. It is one of the largest, most wealthy, and busy towns in the state.

Petersburg, situated on the south bank of Appomattox River, is a handsome and flourishing town. Large quantities of flour and tobacco are exported from this place.

LESSON XL.

MAP STUDIES.—North Carolina.

State the situation of the following Cities and Towns, viz.:—Yanceyville, Oxford, Warrenton, Weldon, Halifax, Edenton, Tarboro, Plymouth, Washington, Greenville, Goldsboro, Newbern, Kenansville, Beaufort, Smithville, Wilmington, Whitesville, Elizabethtown, Lumberton, Fayetteville, Charlotte, Rutherfordton, Murphy, Asheville, Morgantown, Salem, Salisbury, Ashboro, Greensboro, Hillsboro, and Raleigh.

NORTH CAROLINA.

Area in sq. miles, 45,500. Population, 869,000. Inhabitants to a sq. mile, 19. Counties, 82.

Geographical Position, etc.—This state lies between Virginia on the north, and South Carolina and Georgia on the south. It is about 450 miles in length, and its greatest breadth about 180.

Surface.—It is naturally divided into three distinct physical sections; the eastern, or seaward section, consisting for the most part of a low, level, and sandy plain, abounding in marshes, and interspersed here and there with shallow lakes; the middle section, which is hilly, or gently undulating; and the western section, a mountainous region forming an elevated table-land.

The coast of North Carolina is skirted by a range of low, sandy islands, surrounded by shoals, which render navigation exceedingly dangerous. The Great Dismal Swamp, partly in the N. E. part of this state and partly in Virginia, covers a surface of 100,000 acres. This swamp is mostly covered with cedar, pine, and cypress trees.

Soil, etc.—Much of the low sandy section, which extends from the coast about 60 miles inland, is covered with vast forests of pitch pine, that furnish not only lumber, but large quantities of tar, turpentine, and resin. In the interior of the state the soil is productive and highly favorable to agricultural pursuits.

The climate is hot and unhealthy in the summer, on the coast, but cooler and more salubrious in the more elevated districts.

Cotton, rice, and indigo, grow well in the eastern lowlands; the higher grounds are adapted to the growth of grains, fruits, &c. The staple products are Indian corn, tobacco, and sweet potatoes. This state is rich in minerals, especially gold.

Inhabitants, etc.—The first English settlement in North America, was made on Roanoke Island, 1585, under the auspices of Sir Walter Raleigh. Subsequently the colonists became discouraged and returned to England; but in 1650, permanent settlements were made on the banks of the Chowan and Roanoke, by emigrants from Virginia. The leading industrial pursuit is agriculture; mining and manufactures receive considerable attention.

Manufactures and Exports.—North Carolina is an agricultural, not a manufacturing state. Among the manufactures, those of cotton, iron and leather are the most important. The exports are chiefly agricultural products. Tar, pitch, and turpentine, are exported in large quantities.

Cities.—RALEIGH, the capital, is situated about six miles west of Neuse River. Its situation is both elevated and healthy. In the centre of the city is Union Square, in which stands the State House, a splendid building, built after the model of the Parthenon at Athens in Greece. The North Carolina Institution for the Deaf and Dumb, recently established at this place, is also worthy of notice.

NEWBERN, situated on the south-west bank of the River Neuse, is a place of considerable trade. The chief exports of the place are lumber, grain, tar, pitch, turpentine and resin.

BEAUFORT, which is noted as possessing the best harbor in the state, has also considerable trade in the various products of the pine.

WILMINGTON, situated on the left or east bank of Cape Fear River, is the largest and most commercial city in the state. Mail steamers ply daily between this place and Charleston, and several steamboats keep up a constant communication between this port and Fayetteville.

CHARLOTTE, one of the principal towns in the western part of the state, is rapidly increasing, owing to its proximity to the gold mines. A United States Mint is established here for the purpose of coining the gold.

FAYETTEVILLE, situated on the west side of Cape Fear River, is the centre of an extensive trade. The town possesses ample water power which is employed in the manufacture of cotton and flour. The articles of export are mainly the products of the pine.

LESSON XLI.

MAP STUDIES.—South Carolina.

State the situation of the following Cities and Towns, viz.:—Greenville, Spartanburg, Yorkville, Cheraw, Darlington, Conwayboro, Georgetown, Charleston, Beaufort, Walterboro, Branchville, Hamburg, Edgefield, Abbeville, Andersonville, Newberry, Winnsboro, Columbia, Sumterville, and Orangeburg.

SOUTH CAROLINA.

Area in sq. miles, 28,000. Population, 669,000. Inhabitants to a sq. mile, 23. Districts, 29.

Geographical Position, etc.—South Carolina lies between North Carolina and Georgia; from the latter it is separated by Savannah River. The extreme length and breadth of the state, measure about 210 miles each, and the coast line about 200 miles.

Surface, etc.—The coast from 80 to 100 miles inland, is covered with forests of pitch pine, interspersed with numerous swampy tracts and permeated by several sluggish streams; beyond this, a belt of territory succeeds, which consists chiefly of numerous sand hills, with here and there an oasis of verdure, or a plantation of maize.

West of this, the surface rises, at first suddenly and afterwards by a gradual elevation, forming what is called "the Ridge;" and westward of the Ridge the surface is agreeably diversified by hill and dale, forests and pleasant streams. Like North Carolina, the coast is skirted by a range of low islands, covered with forests of live oak, pine, and palmettoes. At present these islands are under cultivation, The chief article cultivated is sea-island cotton.

Soil, etc.—According to a report of the Agricultural surveyors of the state, we learn that South Carolina possesses six distinct varieties of soil; 1. Tide swamp; devoted to the culture of rice. 2. Inland swamp; to rice, cotton, corn, &c. 3. Salt marsh; to long cotton. 4. Oak and pine; to long cotton, corn, &c. 5. Oak and hickory; to short cotton, corn, indigo, &c.; and Pine barren; to fruits, vegetables, &c.

The climate is similar to that of North Carolina, but the state being further south, it partakes in a greater degree of the tropical character. Cotton and rice are the great staples. Of the minerals, gold, iron, and lead are the most important. The gold is obtained from the same belt (extending from the Rappahannock River to the Coosa), in which the gold of Virginia, North Carolina, and Georgia is found.

Inhabitants, etc.—The first permanent settlement of this state was made at Oyster Point, now Charleston, in 1680. Among the original settlers (mostly English) were some Scotch, Germans, and also some French Huguenots. The leading objects of pursuit, are agriculture and commerce.

Manufactures and Exports.—This state is not largely engaged in manufactures. The chief exports are cotton and rice. There is more rice exported from this state than from all the other states in the Union together. Lumber and naval stores are also largely exported.

Cities.—COLUMBIA, the capital, situated on the left or east bank of Congaree River, is regularly laid out with wide streets beautifully ornamented with numerous trees. The site of the city is considerably elevated, affording extensive views of the surrounding country, which is chiefly a cotton and corn region, in the highest state of culture. The South Carolina College is located at this place.

GEORGETOWN, a port of entry, is situated on the west side of Winyaw Bay. This town is noted for its coasting trade.

Charleston, South Carolina.

CHARLESTON, the metropolis and principal seaport, is situated on a peninsula between Ashley and Cooper Rivers, which unite below the city and form a spacious harbor, about 7 miles from the Ocean. Steamers run to Savannah and different parts of Florida on the south, and to Baltimore and New York on the north.

The streets of the city are, in some quarters, lined with the "Pride of India" and other trees. Many of the houses are beautifully ornamented with verandahs, reaching from the ground to the roof, and surrounded by gardens, profusely adorned with orange trees, magnolias, palmettoes, &c.

This city contains several educational, literary and other institutions, among which may be mentioned the State Medical College, the Charleston College, the City Hall and the Orphan Asylum.

HAMBURG, situated on the east bank of the Savannah River, is a noted cotton mart, and has a large inland trade. It lies opposite Augusta, with which it is connected by a bridge which crosses the Savannah at this place.

CAMDEN, a flourishing town, on the east bank of the Wateree, is chiefly remarkable for the battles fought in its vicinity during the Revolution.

LESSON XLII.

MAP STUDIES.—GEORGIA.

State the situation of the following Cities and Towns, viz.:—Rome, Trenton, Dalton, Cassville, Dahlonega, Clarksville, Athens, Greensboro, Washington, Augusta, Millen, Savannah, Darien, Brunswick, Jeffersonton, St. Mary's, Waresboro, Irwinville, Thomasville, Bainbridge, Newton, Albany, Fort Gaines, Americus, Lumpkin, Columbus, Hamilton, West Point, La Grange, Griffin, Newnan, Atlanta, Marietta, Decatur, Oxford, Covington, Madison, Eatonton, MILLEDGEVILLE, Forsyth, Macon, Hawkinsville, Dublin, and Jacksonville.

GEORGIA.

Area in sq. miles, 58,000. Population, 906,000. Inhabitants to a sq. mile, 15. Counties, 112.

Geographical Position, etc.—This state extends from Tennessee and North Carolina on the north, to Florida on the south, and from the waters of Savannah River and the Atlantic Ocean on the east, to Alabama on the west. The length of the state is about 300 miles, and its greatest breadth about 250 miles. Length of sea-coast, 80 miles.

Surface, etc.—This state, like South Carolina, may be divided into three physical sections, viz.: the alluvial flats which extend from the Ocean inland about 100 miles; the sand hill belt, or pine barrens, extending inland to the lower falls of the rivers; and the hilly or mountainous tract of the north and north-west. The Blue Ridge crosses near the western edge of the state.

The coast is lined with a succession of low islands, which are covered with rich plantations, and produce, in great quantities, the long staple cotton, called sea-island cotton.

Along the southern line of Georgia is Okefonokee Swamp, which extends over the border into Florida. This swamp is the abode of numerous alligators, frogs, lizards, cranes, &c.

Soil, etc.—In the north part of the state the valleys are exceedingly rich; in the south are the tide and swamp lands favorable to the growth of rice, and about 60 or 70 miles from the coast are the pine lands, which are valuable chiefly for the timber annually yielded. The middle region is well adapted to the production of tobacco, cotton and grain.

The winters are pleasant, but the summers are very hot. The sickly season is during the months of July, August and September.

The staple product is cotton. Rice, Indian corn, tobacco, and sweet potatoes, are extensively cultivated. Coffee, sugar, and many tropical fruits and plants are produced in some sections of the state. Of minerals, gold is found in the north, and iron-ore in various parts of the state.

Inhabitants, etc.—Georgia was the last settled of the original thirteen states of the American Confederacy. The first colony was established by General Oglethorpe, at Yamacraw Bluff, now Savannah, in 1733. The present inhabitants are engaged chiefly in agricultural pursuits.

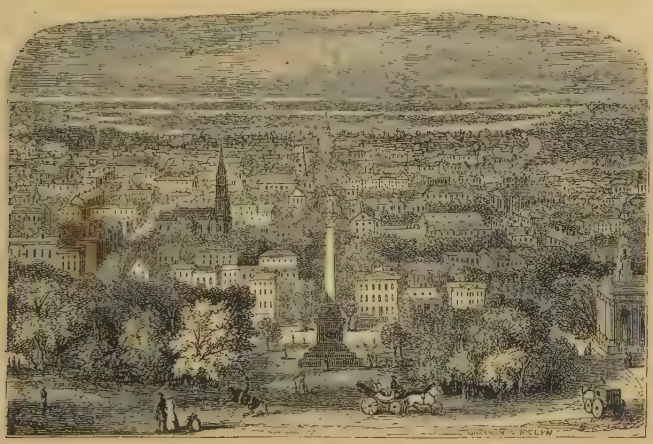
Manufactures and Exports.—This state has recently made considerable advances in the establishment of manufactures. Those of cotton and iron are the most important. The chief articles of export are cotton, rice, lumber, and naval stores.

Cities.—Milledgeville, the capital, situated on the west bank of the Oconee, is built on elevated ground, surrounded by a beautiful and fertile cotton country, and is the centre of a considerable trade. The State House and State Arsenal situated in State House Square, near the centre of the city, are the most prominent public buildings.

Augusta, situated on the west bank of the Savannah, 231 miles from its mouth, ranks the second in the state in population. It is the depot of an extensive and fertile country, the produce of which, consisting chiefly of tobacco and cotton, is sent by railway to Charleston, or is carried down the river to Savannah.

Savannah, the largest and most commercial city in the state, lies on the right, or west bank of Savannah River, about 18 miles above

its mouth. The streets are regularly laid out; after every second street there is a public square. These are generally enclosed and ornamented with the China tree.



Savannah, Georgia.

A line of steamships has been established between this place and New York and Philadelphia, and a steamer plies between this port and the West Indies.

Fort Gaines, situated on a high bluff on the left bank of the Chattahoochee River, is the chief mart for the sale and shipment of cotton in that section of the state.

Columbus, situated on the east bank of the Chattahoochee River, is the third city of the state in population and wealth. A bridge crosses the river at this place. A large number of steamboats ply on the river, carrying cotton and other produce to the sea-board and to New Orleans.

Macon, a flourishing city, lies on both sides of the Ocmulgee River. This city, as well as Columbus, ranks third in point of population and importance. A large amount of cotton is shipped from this place.

LESSON XLIII.

MAP STUDIES.—Florida.

State the situation of the following Cities and Towns, viz.:—Pensacola, Milton, Holme's Valley, Marianna, St. Joseph, Appalachicola, St.

Mark's, TALLAHASSEE, Jasper, Columbus, Jacksonville, St. Augustine, Pilatka, New Smyrna, Mellonville, and Tampa.

FLORIDA.

Area in sq. miles, 59,260. Population, 87,000. Inhabitants to a sq. mile, 1. Counties, 30.

Geographical Position, etc.—This state occupies a peninsula south of Alabama and Georgia, between the Atlantic Ocean and the Gulf of Mexico. It is 385 miles long, and from 50 to 250 wide. Though the length of sea-coast is above 1,000 miles, yet there are but few good harbors.

Surface.—It is generally level; there being no mountains in the state. A range of low hills extends through the peninsula. The Everglades in the south of Florida, cover an extent of about 160 miles in length by 60 in breadth. They have been described by some as a vast lake studded with thousands of islands, by others, as extensive marshy thickets.

Soil, etc.—The soil presents a rich and fertile appearance on the banks of the rivers; and for the space of 30 or 40 miles from the coast there is scarcely to be seen a stone weighing more than 2 or 3 pounds. There is much marshy soil, but the pine-barrens constitute a great portion of the country. The hummocks, or mounds, among the pines are usually fertile.

As this state approaches within a degree and a half of the torrid zone, its climate possesses many tropical characteristics. It very rarely freezes; nor is the cold so severe as to injure even the orange trees. The air is pure and free from fogs, but the dews are generally excessive.

Among the most important productions may be mentioned cotton, Indian corn, sugar-cane, rice, and tobacco. The fruits are varied and abundant; oranges, lemons, figs, pomegranates, pine-apples, olives, grapes, &c. The whole country abounds in various kinds of game, and the surrounding waters yield the finest fish. Alligators are abundant on the shores of the inlets and rivers, and gnats and mosquitoes are both numerous and troublesome.

Inhabitants, etc.—The Spanish were the original settlers of Florida, which was the earliest settled of the now existing states of the Union, but it did not form a part of it until 1820, when it was purchased of Spain. The town of St. Augustine was settled in 1564, so that it is by many years the oldest settlement in the United States.

The leading pursuit is agriculture, though but a small part of the state is under cultivation.

Manufactures and Exports.—Florida is not a manufacturing state. The exports consist chiefly of agricultural products.

Cities.—Tallahassee, the capital, is situated on a commanding eminence, about 20 miles north of its port, St. Mark's, with which it is connected by rail-road. It is regularly laid out, and contains several public squares.

Pensacola, the principal port and city in Florida, is situated on the west shore of Pensacola Bay. About 6 miles below the city, is the United States Navy Yard, covering nearly 80 acres of ground and enclosed by a high brick wall.

Appalachicola, is located on a bluff at the west side of the mouth of Appalachicola River. The harbor is accessible by steamboats from the gulf, and large quantities of cotton are shipped at this place.

St. Augustine, is situated about 2 miles distant from the ocean, on an inlet, called Matanzas Sound. The mildness of the climate and the refreshing sea breezes render this a place of great resort for invalids, during the winter season.

Key West, a port of entry of Florida, is situated on an island of the same name, one of the group called the Florida Keys.

This town is of considerable importance, being the key to the northern passage to the Gulf of Mexico, which is safer, and 90 miles nearer than round the Tortugas group.

The principal business transacted here is derived from the salvages* and other perquisites of wrecked vessels. Considerable quantities of salt are manufactured on the island, and sponges are procured and exported in large numbers.

LESSON XLIV.

MAP STUDIES.—Alabama.

State the situation of the following Cities and Towns, viz.:—Florence, Tuscumbia, Moulton, Jasper, Blountsville, Decatur, Huntsville, Warrenton, Jefferson, Jacksonville, Talladega, Auburn, Girard, Tuskegee, Enon, Eufaula, Abbeville, Montezuma, Greenville, Monroeville, Blakeley, Mobile, St. Stephen's, Camden, Linden, Demopolis, Gainesville, Tuscaloosa, Montevallo, Fayetteville, Wetumpka, Montgomery, Cahawba, Selma, and Marion.

* Persons who seek the wrecks of ships, are called *wreckers;* the compensation allowed them by law, is called salvage.

ALABAMA.

Area in sq. miles, 50,700. Population, 772,000. Inhabitants to a sq. mile, 15. Counties, 52.

Geographical Position, etc.—This state lies between Tennessee on the north, and Florida and the Gulf of Mexico on the south, and extends from Georgia on the east, to Mississippi on the west. The extreme length of the state is about 330 miles, and its breadth varies from 140 to 210 miles. Length of sea-coast about 60 miles.

Surface.—The northern part is mountainous, though not very elevated. The Alleghany Range terminates in this section of the state. South of the mountainous district the surface gradually declines to the Gulf of Mexico. The extreme southern portions of the state are a dead level, but triflingly elevated above the surface of the ocean.

Soil, etc.—In the flats, between the low mountains on the north, the soil is good. The central part of the state is occupied chiefly by fertile prairies, and the southern consists of prairies and pine-barrens, interspersed with alluvial river bottoms of great fertility.

The climate is similar to that of Georgia. Running water is rarely ever frozen, and cattle require no shelter.

Cotton is the great staple. In the amount of cotton annually produced Alabama ranks first, Georgia second, and Mississippi third in the Union. Indian corn, wheat, oats, rice, live-stock, butter and sweet potatoes are produced in large quantities. The sugar-cane grows in the south-west part of the state.

The mineral resources are worthy of note, consisting chiefly of iron, coal and marble.

Inhabitants, etc.—This state was settled by the French. The southern part originally belonged to Florida, and the northern to Georgia. In 1802, Georgia ceded all her territory west of the Chattahoochee, to the United States. Agriculture is the chief employment of the inhabitants.

Manufactures and Exports.—But little attention has, as yet, been paid to manufactures. Cotton manufactures have been introduced with considerable success. The commerce of the state consists chiefly in the exportation of articles of domestic produce.

Cities.—MONTGOMERY, the capital, is situated on a high bluff, on the left bank of Alabama River, at the western termination of the Montgomery and West Point Railroad. The surrounding country is one of the richest cotton regions of the state; and large quantities of this article are shipped from this port.

Florence, on the north bank of Tennessee River, at the head of steamboat navigation, is a principal shipping port, in the north, and does an extensive business in proportion to the population.

Eufaula, on the right bank of the Chattahoochee, is a place of considerable trade, chiefly in cotton.

Mobile, situated on the west bank of Mobile River, near its mouth, is the principal commercial mart of the state. Next to New Orleans, it is the chief port for the export of cotton.

Among the public buildings may be mentioned the City Hall, the United States Marine and City Hospitals, and a splendid Roman Catholic Cathedral. Spring Hill College is also located at this place.

Steamboats ply regularly between this port and New Orleans, by way of Lakes Borgne and Pontchartrain, and a line of sailing vessels from Mobile to New York.

Tuscaloosa, on the left bank of Black Warrior River, at the head of steamboat navigation, is noted for its literary institutions and for its active trade. The University of Alabama is located here.

LESSON XLV.

MAP STUDIES.—Mississippi.

State the situation of the following Cities and Towns, viz.:— Delta, Holly Springs, Oxford, Jacinto, Pontotoc, Cotton Gin Port, Aberdeen, Columbus, Louisville, Paulding, Winchester, Augusta, Mississippi City, Shieldsboro, Columbia, Monticello, Westville, Woodville, Natchez, Gallatin, Port Gibson, Grand Gulf, Jackson, Clinton, Vicksburg, Yazoo City, Tallulah, Bolivar, Grenada, Greensboro, Lexington, Hillsboro, and Brandon.

MISSISSIPPI.

Area in sq. miles, 47,150. Population, 607,000. Inhabitants to a sq. mile, 12. Counties, 60.

Geographical Position, etc.—Mississippi lies between Tennessee on the north, and the Gulf of Mexico and Louisiana on the south, and extends from the western border of Alabama to the Mississippi. Its greatest length is about 400 miles, and its average breadth about 150.

Surface.—There are no mountains in the state, yet numerous ranges of hills give to a part of the surface an undulating and diversified character. In the north the land is hilly and broken; in the eastern and central parts it is a kind of table-land, descending towards the Mississippi, sometimes approaching close to the river's brink and over-

hanging it in precipices of from one to two hundred feet in height. In the south for about 100 miles from the Gulf of Mexico it is mostly level, covered with pine forests, interspersed with cypress swamps, prairies, and a few low hills. The general slope of the state is south-west.

Soil, etc.—The valleys of the northern and central portions of the state, are exceedingly fertile. In the south-east the soil is mostly sandy, interspersed with a few fertile tracts.

The summers are long and hot, but the winters are several degrees colder than in the Atlantic States of the same latitude.

Cotton is the great staple. Indian corn, rice, bananas, sweet potatoes, and a great variety of fruits, together with wool, butter, and live-stock, are among the chief productions.

Inhabitants,—etc.—This state was settled by the French. The first settlement was at Fort Rosalie (now Natchez). Agriculture forms the leading occupation of the present population.

Manufactures and Exports.—Mississippi is an agricultural, not a manufacturing state. The commerce (which is carried on mostly through the port of New Orleans) consists chiefly in the export of cotton and other agricultural products. The forests are beginning to be turned to account in the production of lumber, tar, turpentine, pitch and resin.

Cities.—Jackson, the capital of the state, a small but thriving town, is situated on the right or west bank of the Pearl River. It contains a handsome State House, the State Penitentiary, and the State Lunatic Asylum. About 30,000 bales of cotton are annually shipped at this place.

Holly Springs, a small but flourishing town in the northern part of the state, about 200 miles north of Jackson, is noted for the number and excellence of its educational institutions.

Columbus, on the left bank of the Tombigby, is the chief depot of an extensive country. The river is navigable for steamboats, which make frequent passages between this place and Mobile. A fine bridge crosses the river at Columbus.

Natchez, the most populous and commercial city of the state, is situated on a bluff, about 200 feet in height, on the east bank of the Mississippi River. Many of the houses, though built of wood, present an elegant appearance, having piazzas and balconies, and surrounded by beautiful gardens and orange groves. Cotton is the chief article of export.

Vicksburg, is built chiefly on a high bluff on the east bank of the Mississippi, about 400 miles from New Orleans. This town is also an important mart for cotton, of which about 100,000 bales are annually exported.

LESSON XLVI.

MAP STUDIES—Louisiana

State the situation of the following Cities and Towns, viz.:—Shreveport, Belleview, Farmersville, Monroe, Columbia, Harrisonburg, Vidalia, St. Francisville, Jackson, Clinton, Port Hudson, Baton Rouge, Madisonville, New Orleans, Proctorsville, Thibodeaux, Donaldsonville, Martinsville, Vermillionville, Opelousas, Alexandria, and Natchitoches.

LOUISIANA.

Area in sq. miles, 41,340. Population, 518,000. Inhabitants to a sq. mile, 12. Parishes, 48.

Geographical Position, etc.—Louisiana extends from Arkansas on the north, to the Gulf of Mexico on the south, and from Mississippi to the waters of the Sabine. Its extreme length from east to west is about 300 miles, and its breadth about 250.

Surface, etc.—This state has no mountains; no part of the surface attains an elevation of more than 200 feet. The surface is mostly level, with some hilly ranges in the western part.

The great Delta of the Mississippi, included within the Atchafalaya and the Amite and extending over about one-fourth part of the state, is not, for the most part, elevated more than ten feet above the level of the Gulf of Mexico, and is annually inundated by the spring floods. Only about one-twentieth part of the surface of the state is under cultivation.

Soil, etc.—The soil is various. The richest tract in the state is a narrow belt of land, from one to two miles in width, lying along the Mississippi, on both sides, and extending from 150 miles above, to about 100 miles below, New Orleans.

The climate is similar to that of Mississippi. Cotton and sugar-cane are the great staples of the state. Nine-tenths of the sugar-cane produced in the United States comes from Louisiana. Fruits, such as oranges, figs, peaches, etc., are abundant. Alligators and turtles are exceedingly numerous.

Inhabitants, etc.—In 1699, a fort was built and a colony founded about 50 miles above the mouth of the Mississippi River. In 1762

France ceded the territory of Louisiana to Spain. It was retroceded to France in 1800, and in 1803, purchased by the United States for $15,000,000. This state, first settled by the French, has still a large French population. Agriculture and commerce form the leading industrial pursuits.

Manufactures and Exports.—This state is largely engaged in the manufacture of sugar and molasses. The commerce consists mainly in the exportation of articles of domestic produce, of which sugar and cotton are the most important.

New Orleans, Louisiana.

Cities.—Baton Rouge, the capital, is situated on a bluff about 30 feet in height, on the east or left bank of Mississippi River.

Below the city the river passes through a plain, occupied by rich plantations of sugar-cane, splendid villas, and numerous groves of tropical fruit trees. The State House, the Louisiana Penitentiary, and Baton Rouge College are among its prominent public buildings.

New Orleans, the great commercial emporium of the Western and Southern States, lies on the north bank of Mississippi River, about 100 miles from its mouth. The city is built around a bend in the river, and on this account it is frequently called the "Crescent City."

The Levee of New Orleans is an embankment constructed along the margin of the river, forming one continuous landing-place or quay,

four miles in length, and of an average width of 100 feet. This was built to prevent the inundation of the city by the river, at high water.

This city possesses unrivalled advantages for internal trade, being the natural outlet for a large portion of the commerce of the Mississippi, and its numerous tributaries.

The dwellings in the suburbs, particularly in Lafayette, are surrounded by gardens, decorated with the orange, lemon, and magnolia trees. Opposite to the city, and connected with it by a ferry, is the town of Algiers.

The benevolent institutions of the city are worthy of note, and many of the churches are magnificent structures. The Custom House, of this city, is the largest building in the Union, except the Capitol at Washington.

NATCHITOCHES, a place of considerable trade, is situated on the Red River, about 500 miles from New Orleans.

ALEXANDRIA, a small town, pleasantly situated on the Red River, is a place of much trade, being the most important cotton depôt on that river.

LESSON XLVII.

MAP STUDIES.—TEXAS.

(See "Map of United States.")

State the situation of the following Cities and Towns, viz.:—Preston, Dallas, Buffalo, Jordan's Saline, Boston, Jefferson, Nacogdoches, Burkeville, Sabine City, Liberty, Independence, Houston, Velasco, Matagorda, Columbus, Bastrop, AUSTIN, Gonzales, New Braunfels, Victoria, Goliad, San Antonia, San Patricio, Corpus Christi, Point Isabel, Brownsville, Rio Grande, Laredo, Fort Duncan, San Elizario, Milam, Galveston, and Saluria.

TEXAS.

Area in sq. miles, 325,520. Population, 213,000. Inhabitants about 2 to every 3 sq. miles. Counties, 92.

Geographical Position, etc.—This state extends from New Mexico and Indian Territory, which bound it on the north, to the waters of the Gulf of Mexico and the Rio Grande. Its extreme length from N. W. to S. E. is more than 800 miles, and its greatest breadth, from east to west, about 750.

Surface, etc.—Texas may be divided into three distinct physical regions; the level, the undulating, and the mountainous, or hilly. The level region occupies the coast, extending from 30 to 60 miles

into the interior; the undulating succeeds this, and embraces a belt of land of about 200 miles in width, which is followed by the mountainous or hilly tract of the north and north-west. The coast is lined with a chain of low islands.

Soil, etc.—The general character of the soil is that of fertility. There are few countries, of the same extent, possessing as little unproductive land as Texas.

The climate, freed from the extremes of both the torrid and temperate zones, is mild and salubrious. Snow is seldom seen except on the mountains. Cotton is the great staple of the state. The soil, whether upland or lowland, woodland or prairie, seems admirably adapted to its culture.

The sugar-cane thrives well in the level country. Tobacco flourishes with but little care, and indigo is indigenous to the state. Wheat, corn and rice, are extensively cultivated in some parts.

Fruits of almost every description are plentiful. Vast herds of buffaloes and wild horses wander over the prairies; deer and fish are abundant. Texas also abounds in useful minerals.

Inhabitants, etc.—Texas was first settled by the Spanish in 1692. It was formerly a Mexican province, but achieved its independence in 1836. It remained an independent republic, modelled after the government of the United States, till 1845, when it was admitted as a State of the Union. Agriculture and the rearing of live-stock, form the chief pursuits of the inhabitants.

Manufactures and Exports.—Texas, being a new state, has but few manufactures. Cattle and salt are exported to the West Indies. The chief article of export is cotton.

Cities.—Austin, the capital of the state, is situated on the left or north bank of the Colorado, about 200 miles from its mouth.

Galveston, the most populous and commercial city of Texas, is situated on the Island of Galveston, at the mouth of Galveston Bay.

The great bulk of its commerce is coastwise with New Orleans and New York. Steamboats make regular passages to New Orleans, and to towns in the interior of the state. The island on which the city is located, is about 36 miles in length, with an average breadth of two miles.

Matagorda, situated at the mouth of the Colorado River, is a place of considerable trade.

Brownsville, on the left bank of the Rio Grande, carries on an extensive trade with Mexico.

HOUSTON, the second city in the state in commercial importance, is situated on Buffalo Bayou, about 45 miles from its entrance into Galveston Bay. Several steamboats ply regularly between this port and Galveston.

SAN ANTONIA is located on both sides of the San Antonia River. This town is celebrated in history as the scene of several battles. A United States Arsenal is located here.

LESSON XLVIII.

STUDIES ON THE MAP OF THE WESTERN STATES.

Bound the following States, viz.:—Wisconsin, Michigan, Ohio, Kentucky, Tennessee, Arkansas, Missouri, Iowa, Illinois, Indiana, and California.

State the situation of the following Cities and Towns, viz.:—Superior, Wausau, Green Bay, Appleton, Oshkosh, Manitowoc, Fond du Lac, Berlin, Sheboygan, Port Washington, Columbus, Watertown, Jefferson, Waukesha, Milwaukee, Racine, Kenosha, Beloit, Janesville, MADISON, Mineral Point, Potosi, Prairie du Chien, Prairie du Sac, De Korra, La Crosse, Galesburg, Prescott, Osceola, Clearwater, Plover, Berlin, and *La Pointe.

WISCONSIN.

Area in sq. miles, 53,920. Population, 305,000. Inhabitants to a sq. mile, 5. Counties 50.

Geographical Position, etc.—Wisconsin lies north of Illinois, between Lake Michigan and the Mississippi River. It is nearly 300 miles in its extreme length, and its greatest breadth is about 250.

Surface.—It is mostly level in the southern and central parts, consisting of prairie and timber land. There are no mountains, properly so called, in the state. West and north of Wisconsin River, there is a range of high hills, which separates the waters that flow into Lake Superior from those that empty into the Mississippi.

Eastward of the Wisconsin is another range of hills, forming the slope drained by Rock River and its tributaries; and a third ridge separates the waters that flow into Green Bay from those that empty *directly* into Lake Michigan.

When the streams are unusually full, Fox and Wisconsin Rivers actually communicate, though they run in opposite directions.

* La Pointe is situated on Madeline Island in Lake Superior.

The Wisconsin University.

Soil, etc.—The soil of the prairie land is well adapted to agricultural purposes, and that of the pine districts in the north and west is not so rich as in other portions of the state. The "*oak openings*" (lands covered with a scattered growth of oak) not only comprise a large portion of the best land in the state, but they form an important and picturesque feature in the landscapes of Wisconsin.

The climate, though severe in winter, is regular and healthful. The chief agricultural products are wheat, Indian corn, oats, potatoes, butter and live-stock. Lead and copper ore are found in large quantities in the south-west part of the state.

Inhabitants, etc.—This state was first visited by French missionaries in 1660, and a settlement was made by the French in the latter part of the seventeenth century. It remained under the French until 1763, when it was ceded to the English, by whom it was retained till the close of the Revolution.

The present population consists chiefly of emigrants from the Eastern section of the Union, and also from various parts of Europe. The leading industrial pursuit is agriculture.

Manufactures and Exports.—The state is not, as yet, extensively en-

gaged in manufactures. Pine lumber is manufactured in considerable quantities. The commerce of the state consists mainly in the exportation of wheat and other grains, lumber, and lead.

Cities.—Madison, the capital, is pleasantly located on an isthmus between Third and Fourth Lakes. The Capitol, in Capitol square, is built on ground elevated some 70 feet above the level of the lakes. The University of Wisconsin is located on College Hill, about one mile from the Capitol.

Milwaukee, the most important city on Lake Michigan, except Chicago, and the most populous of Wisconsin, is pleasantly situated on the west shore of the lake, on both sides of Milwaukee River.

This city is noted for its splendid blocks of buildings, and for the superior quality of the bricks manufactured there. They are of a delicate cream, or straw color. Milwaukee is the commercial mart of a rich and rapidly improving country.

Racine, situated on the west shore of Lake Michigan, at the mouth of Root River, is the second city in the state in population and commerce. Its harbor is one of the best on the lake.

Watertown is finely situated on both sides of Rock River, at the great bend. The rapids above the town have a fall of 24 feet, which affords abundance of water-power. The town is rapidly increasing.

LESSON XLIX.

MAP STUDIES.—Michigan.

State the situation of the following Cities and Towns, viz.:—Ontonagon, Houghton, Marquette, and Sault Sainte Marie,—Saginaw, Flint, Port Huron, St. Clair, Pontiac, Detroit, Dexter, Ann Arbor, Ypsilanti, Monroe, Adrian, Jackson, Hillsdale, Marshall, Battle Creek, Centreville, Constantine, Niles, New Buffalo, St. Joseph, Kalamazoo, Grand Haven, Grand Rapids, Corunna, Lansing, and *Mackinaw.

MICHIGAN.

Area in sq. miles, 56,240. Population, 398,000. Inhabitants to a sq. mile, 7. Counties, 73.

Geographical Position, etc.—Michigan comprises two large peninsulas; the northern, situated between Lakes Superior and Michigan, and the southern between Lakes Michigan and Huron.

*Mackinaw, or Mackinac, is situated on the south-east side of an island of the same name, in Mackinaw Strait.

The northern peninsula is about 300 miles in length, from north-west to south-east; and the southern, about 280 miles long, and 200 wide.

Surface.—The northern peninsula is much diversified, and the southern has a generally level, or rolling surface. Eastward of the central part, the land rises into an irregular ridge, which serves to separate the waters that empty into the Lakes on the east from those which flow into Lake Michigan on the west. The lake coast of Michigan is more than 1,000 miles in length. It is sometimes called "The Lake State."

Soil, etc.—The soil of the northern peninsula is rugged and poor, abounding in lofty forests; that of the southern is generally fertile.

The climate, though severe, is somewhat moderated by the proximity of the state to the lakes. Vegetation in the summer comes forward rapidly. The staple products are grain, hay, garden vegetables, wool, butter, cheese, maple sugar and live-stock.

Wild rice grows in great abundance in the north-west. Fish and minerals abound. Copper is found all along the southern shore of Lake Superior; especially on the Kewenaw Peninsula, the mines of which are probably the richest in the world.

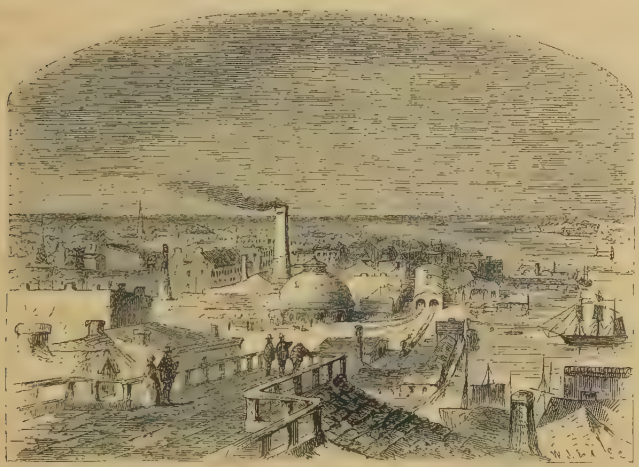
Natural Curiosities.—In Northern Michigan, the shores along Lake Superior are composed of sandstone rock, which in some places has been worn by the action of the wind and water into fancied resemblances of ruined temples, castles, &c. The most noted and beautiful specimens of this character are the "Pictured Rocks," situated about 60 miles west of the Strait of St. Mary. These rocks extend nearly 12 miles, and rise about 300 feet above the level of the lake.

Inhabitants, etc.—Michigan was first settled by the French, at Detroit, in 1670. It was ceded to Great Britain, with the other French possessions in North America, in 1763; and in 1796, the English resigned the post of Detroit to the United States. The leading industrial pursuit in the southern peninsula is agriculture; in the northern, mining.

Manufactures and Exports.—Michigan is eminently an agricultural state. In common with other recently settled states, the manufactures are yet in their infancy. They are, however, rapidly increasing. The state is admirably situated for internal trade, and trade with British America.

The chief articles of export are wheat, and other grains, live-stock, wool and copper.

Cities.—Lansing, the capital, situated on both banks of Grand River, is the centre of an active, and increasing trade. The State House, a handsome edifice, is situated on an eminence, 50 feet above the level of Grand River.



Detroit, Michigan.

Detroit, the commercial emporium of the state, is situated on the west bank of Detroit River. This city is admirably situated for commerce, in which it is extensively engaged. Large numbers of steam-packets, freighted with a variety of merchandise, and with hosts of emigrants from various nations, are constantly arriving. Among the public buildings may be mentioned the old State House, which commands a fine view of Lake St. Clair and the Canadian shore.

Monroe, situated on both sides of Raisin River, is the principal market for the wheat produced in the vicinity. It is a place of considerable commercial importance.

Adrian, on a branch of Raisin River, is the centre of an active trade. The water-power here afforded is used by various mills.

Grand Rapids, situated on the rapids of Grand River, is one of the most important towns in Michigan, possessing great advantages for an extensive commerce, and a large inland trade, being the chief natural depôt of the country north.

KALAMAZOO, on the left bank of Kalamazoo River, and ANN ARBOR, on the Huron River, are flourishing places. The State University is located at the latter place. Several manufactories have recently been established at Kalamazoo.

LESSON L.

MAP STUDIES.—OHIO.

State the situation of the following Cities and Towns, viz.:—Defiance, Maumee City, Perrysburg, Toledo, Findlay, Kenton, Bucyrus, Tiffin, Sandusky, Norwalk, Wooster, Mansfield, Cleveland, Hudson, Painesville, Ashtabula, Warren, Ravenna, Massillon, Millersburg, Canton, Wellsville, Steubenville, Coshocton, Zanesville, Bridgeport, McConnellsville, Marietta, Belpre, Athens, Pomeroy, Gallipolis, Burlington, Ironton, Portsmouth, Chillicothe, Hillsboro, Cincinnati, Hamilton, Xenia, Dayton, Springfield, Eaton, Troy, Piqua, Greenville, Sidney, Marion, Mount Vernon, Delaware, Newark, COLUMBUS, and Circleville.

OHIO.

Area in sq. miles, 40,000. Population, 1,980,000. Inhabitants to a sq. mile. 49. Counties 88.

Geographical Position, etc.—This state extends northwardly from the Ohio River to Michigan and Lake Erie, and from Pennsylvania on the east to Indiana on the west. Its greatest length from N. to S. is about 200 miles, and its extreme width a few miles more.

Surface.—The central part of the state is a high table-land, about 1,000 feet above the level of the sea. A slightly elevated ridge of highlands, north of the middle of the state, divides the waters flowing north into Lake Erie from those which flow southwardly to the Ohio.

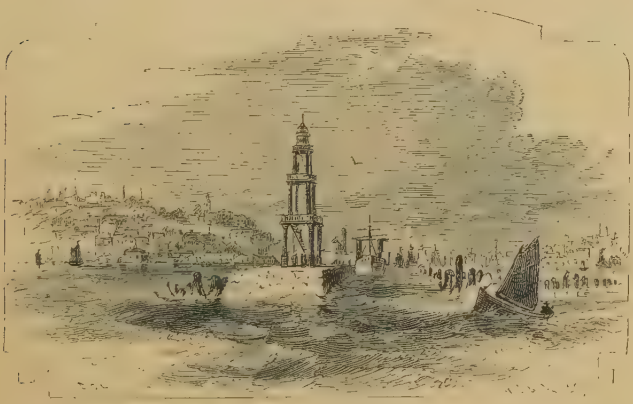
The surface in general is undulating, and agreeably diversified. There are no mountains in the state.

Soil, etc.—Nine-tenths of the surface of the state is susceptible of cultivation, and nearly three-fourths exceedingly productive. In the north, the temperature is as rigorous as in the same latitude near the seaboard, but in the south it is much more mild.

The staple products are grain, butter, cheese, wool, orchard products, maple sugar, tobacco, and live stock. This state ranks first in the Union in the amount of Indian corn and wool annually produced. Iron and coal are abundant in the south-eastern part of the state.

Inhabitants, etc.—This country remained in possession of the Indians till five years after the Revolution, when General Putnam, with a company of New Englanders, made the first white settlement at Marietta. Agriculture is the leading industrial pursuit. Manufactures and commerce receive considerable attention.

Manufactures and Exports.—The chief manufactures are those of woolen, iron and leather. The direct intercourse between Ohio and foreign countries is small, and is confined chiefly to a trade between the lake ports and Canada. By far the greater portion of its exports are sent either to the seaboard at Philadelphia, New York, or Boston, or by way of the Ohio and Mississippi to New Orleans. Among the exports we may mention flour, grain, wool, cheese, butter, pork and lard.



Cleveland, and part of Ohio City.

Cities.—Columbus, the capital, is pleasantly situated on the left, or east bank of the Scioto River. It is a place of considerable business, being surrounded by a rich and populous country. The new State House, here located, is said to be one of the finest in the Union.

Toledo, on the left bank of the Maumee, 4 miles from its mouth, is noted for its fine harbor and the extent of its commerce. In its natural commercial advantages Toledo is not surpassed by any port on the great lakes. Sandusky, on Sandusky Bay, 3 miles from Lake Erie, is a city of considerable commercial importance. It is built on an inexhaustible bed of limestone, and is extensively engaged in the plaster and lime trade.

Cleveland, the great northern commercial emporium of Ohio, is situated on the south shore of Lake Erie, at the mouth of Cuyahoga River. It is 255 miles from Cincinnati, and about 200 miles by water, from Buffalo. Ohio City, on the south-west bank of Cuyahoga River, is now included within the limits of Cleveland.

Marietta, the oldest town in the state, is located on the Ohio, at the mouth of the Muskingum River.

Cincinnati, the most populous city of the Western States, and the great commercial metropolis of Ohio, is situated on the north side of Ohio River. It is located in a beautiful valley, and is distinguished for the variety and importance of its manufactures, the extent of its commerce, and for its literary and benevolent institutions Among the most prominent public buildings may be mentioned the Roman Catholic Cathedral, the Observatory, the Hughes and Woodward High School Buildings, the Custom House, and the new Court House.

Vineyards are extensively cultivated in the vicinity of the city, and the wine produced is said to be equal to the wines of France. A short distance from the city are two beautiful villages, containing the country-seats of persons doing business in the city.

Zanesville, situated on the east bank of Muskingum River, is a flourishing city. It possesses great manufacturing advantages in the abundance of water-power here afforded, and in the rich bituminous coal mines of the adjacent hills. Dayton, on the left bank of the Great Miami, is noted for the extent and variety of its manufactures.

LESSON LI.

MAP STUDIES.—Kentucky.

State the situation of the following Cities and Towns, viz.:—Henderson, Owenboro, Hartford, Hawesville, Elizabethtown, Brandenburg, Louisville, Bedford, Shelbyville, Frankfort, Warsaw, Covington, Newport, Falmouth, Cynthiana, Flemingsburg, Maysville, Greenupsburg, Louisa, Piketon, Jackson, Barboursville, Williamsburg, Mount Vernon, Jamestown, Scottsville, Bowling Green, Morgantown, Russellville, Canton, Hickman, Columbus, Paducah, Smithland, Litchfield, Greensburg, Stanford, Danville, Harrodsburg, Lexington, Paris, and Irvine.

KENTUCKY.

Area in sq. miles, 37,680. Population, 982,400. Inhabitants to a sq. mile, 26. Counties, 100

Geographical Position, etc.—Kentucky lies north of Tennessee, and south of Ohio River, which separates it from the states of Illinois

Indiana and Ohio. The length of the state is about 300, and its greatest breadth about 180 miles.

Surface.—The surface in the eastern section is hilly and mountainous; in the west, it is generally level.

Louisville, Kentucky.

Soil, etc.—The soil of the greater part of the state is celebrated for its fertility, and the climate is mild and salubrious.

The staple products are Indian corn, flax, hemp and tobacco. The other noted productions are wheat, rye, oats, wool, butter, bees'-wax and honey. In the amount of tobacco annually produced, this state ranks second only to Virginia, and in Indian corn second only to Ohio.

Coal and iron are abundant, and salt and mineral springs are numerous; of the latter, Harrodsburg Springs, 35 miles south of Frankfort, are much celebrated.

Natural Curiosities.—Among the natural curiosities of Kentucky, the most noted is the Mammoth Cave. It is situated about 130 miles south-west of Lexington. This remarkable cave has been explored for a distance of ten miles.

Inhabitants, etc.—This state, from 1776 to 1790, formed a part of

Virginia. It was first explored by Colonel Boone and his compeers in 1770. The chief employment of the inhabitants is agriculture.

Manufactures and Exports.—Kentucky is not extensively engaged in manufactures. Agriculture forms the leading pursuit. Cattle, horses, mules and swine are raised in great numbers, and sent to the neighboring states for sale; these, together with cotton bagging and hemp cordage, form the chief articles of export.

Cities.—FRANKFORT, the capital, is situated on the right bank of the Kentucky, about 60 miles from its mouth. It is the centre of an active trade, which is facilitated by railroads and by the navigation of the river.

LOUISVILLE, situated on the rapids of the Ohio, is the largest city in the state. To obviate the bar to navigation caused by the rapids at this place, a canal, about 2½ miles in length, has been constructed, capable of accommodating the largest boats.

COVINGTON, a flourishing city, is built on a beautiful plain, at the mouth of Licking River, directly opposite Cincinnati, to which steam ferry-boats ply hourly.

NEWPORT, situated on the Licking River opposite Covington, is an important and growing place.

LEXINGTON, the oldest town in the state, is situated about 25 miles south-east of Frankfort. About a mile and a half from the city is Ashland, memorable as having been the residence of the late Henry Clay. Lexington is distinguished for its literary and scientific institutions.

LESSON LII.

MAP STUDIES.—TENNESSEE.

State the situation of the following Cities and Towns, viz.:—Dresden, Paris, Camden, Dover, Clarksville, NASHVILLE, Gallatin, Lebanon, Carthage, Gainsboro, Morgan, Clinton, Taylorsville, Greenville, Knoxville, Kingston, Marysville, Chattanooga, Winchester, Shelbyville, Lewisburg, Pulaski, Perryville, Savannah, Moscow, Memphis, Raleigh, Somersville, Fulton, Jackson, Trenton, Huntingdon, Vernon, Statesville, Murfreesboro, and Columbia.

TENNESSEE.

Area in sq. miles, 44,000. Population, 1,003,000. Inhabitants to a sq. mile, 22. Counties, 80.

Geographical Position, etc.—Tennessee lies south of Kentucky, and north of Georgia, Alabama, and Mississippi. It extends from the Al-

leghany Mountains on the east, to the Mississippi on the west. Its mean length is 400 miles, and its mean breadth about 100.

Surface.—This state is divided by the Cumberland Mountains into East and West Tennessee. The former is mountainous, and the latter undulating or hilly.

Soil, etc.—The soil is generally fertile, particularly in the middle and western sections of the state, and the climate is mild and genial. The winters are short, and the summers are free from the intense heat of the states bordering on the Gulf of Mexico. The staple products are Indian corn, tobacco, and cotton. Grain, grass, and fruit, are abundant. Immense numbers of swine and mules are raised in this state. The chief mineral resources are iron, copper, and coal.

Inhabitants, etc.—This state was settled by the English, and is the oldest of the Western States. It originally formed a part of the possessions of North Carolina. Agriculture forms the leading industrial pursuit.

Manufactures and Exports.—Tennessee is not noted as a manufacturing state. The exports are mainly live-stock, fruits, and the staple products of the state.

Cities.—Nashville, the capital, is a handsome city, situated on the left bank of Cumberland River, about 200 miles above its entrance into the Ohio. The Cumberland is here crossed by a magnificent wire suspension bridge. Its railroad and river facilities render it the seat of an active trade.

Memphis, built on a high bluff that overlooks the Mississippi, is the most important city on that river between St. Louis and New Orleans. Large quantities of cotton are annually shipped at this port.

Knoxville is situated at the head of steamboat navigation, on the right bank of the Holston.

Murfreesboro is located in the midst of a fertile plain, about 30 miles south-east of Nashville.

LESSON LIII.

MAP STUDIES.—Arkansas.

State the situation of the following Cities and Towns, viz.:—Fayetteville, Huntsville, Athens, Pocahontas, Batesville, Elizabeth, Mount Vernon, Helena, Pine Bluff, Arkansas, Napoleon, Columbia, Monticello, Warren, El Dorado, Lewisville, Camden, Fulton, Arkadelphia, Booneville, Fort Smith, Van Buren, Clarksville, Clinton, Lewisburg, Little Rock, and Hot Springs.

ARKANSAS.

Area in sq. miles, 52,200. Population, 210,000. Inhabitants to a sq. mile, 4. Counties, 54

Geographical Position.—This state lies west of Mississippi River, which separates it from Tennessee and Mississippi; it extends from Missouri on the north, to Louisiana on the south, a distance of about 240 miles.

Surface.—The surface is low, level, and marshy in the east, for the distance of about 100 miles, undulating in the interior, and mountainous in the west. In some parts there are extensive prairies, but much of the land is well wooded.

Soil, etc.—On the margin of the rivers the soil is very fertile; in other parts it is sterile. The climate is healthy and temperate in the west; in the east and south it is moist and unhealthy. The staple productions are cotton, Indian corn, and live-stock. The chief mineral resources are coal, iron, copper, lead, zinc, gypsum, manganese, and salt. Hot springs are numerous along the Washita River. Arkansas is still the abode of numerous wild animals, such as deer, elks, bears, and wolves.

Natural Curiosities.—About 60 miles south-west of Little Rock are the celebrated Hot Springs. These springs, about 100 in number, are much resorted to by invalids. The temperature of the waters varies from 135° to 160° of Fahrenheit.

Inhabitants, etc.—Arkansas was originally settled by the French, and formed a part of the track purchased from the French in 1803, under the name of Louisiana. The present inhabitants are engaged chiefly in agricultural pursuits.

Manufactures and Exports.—This state is not extensively engaged in manufactures. The staple products form the chief articles of export.

Cities.—Little Rock, the capital, is situated on the south bank of the Arkansas, about 300 miles above its mouth. It is located on a rocky bluff about 150 feet above the river. Though a small place, yet it is the business depôt of a wide extent of country.

Helena, situated on the west bank of the Mississippi, carries on considerable trade with the northern section of the state.

Van Buren, situated on the north bank of the Arkansas, is the chief commercial city.

Batesville, on the left bank of White River, about 400 miles above its mouth, is the most important town in the north-east part of the state.

LESSON LIV.

MAP STUDIES.—Missouri.

State the situation of the following Cities and Towns, viz.:—Oregon, Gallatin, Princeton, Monticello, Marion City, Hannibal, Louisiana, Shamrock, Danville, St. Charles, St. Louis, Herculaneum, St. Genevieve, Potosi, Fredericktown, Jackson, Cape Girardeau, New Madrid, Greenville, Van Buren, Rockbridge, Forsyth, Hartville, Springfield, Neosho, Greenfield, Osceola, Batesville, Clinton, Pleasant Hill, Lexington, Independence, Westport, Kansas, Liberty, Platte City, Weston, De Witt, Keytesville, Glasgow, Franklin, Booneville, Fulton, Marion, Jefferson City, Hermann, Linn, Waynesville, Erie, and Warsaw.

MISSOURI.

Area in sq. miles, 65,000. Population, 682,000. Inhabitants to a sq. mile, 10. Counties, 106.

Geographical Position, etc.—This state borders on the west side of Mississippi River, between Iowa and Arkansas. Its greatest length from east to west is about 287 miles, and its greatest breadth 280.

Surface.—The surface, north of the Missouri, is mostly level or undulating,—sometimes rising into picturesque hills, then stretching away into a vast sea of prairies, and here and there interspersed with beautiful shady groves. South of the river the surface is hilly and mountainous, except in the south-east, where it is low and marshy.

Soil, etc.—The soil is generally fertile, particularly along the margin of the rivers. The climate, though variable, is healthy, and the summers are very warm. The staple productions are Indian corn, wheat, hemp and tobacco. Fruits grow in great profusion. In the amount of hemp produced, this state is second only to Kentucky. Except on the prairies, the entire state is well timbered; the former supply excellent pasturage for immense numbers of cattle. Missouri is rich in minerals, consisting chiefly of lead, iron, coal and copper.

Inhabitants, etc.—Missouri was originally settled by the French, but the present inhabitants consist chiefly of emigrants from the other states in the Union, and their descendants. In 1803, at the purchase of Louisiana, it came in possession of the United States. The leading industrial pursuit is agriculture. Mining is carried on to some extent.

Manufactures and Exports.—Manufactures are not extensive. Among the chief exports are live-stock, pork, flour, lead, and tobacco.

Cities.—Jefferson City, the capital, is located on the right bank of Missouri River, about 150 miles by water from St. Louis.

HANNIBAL, situated on the west side of the Mississippi about 150 miles above St. Louis, is rapidly increasing in commercial importance.

ST. CHARLES is finely situated on the north bank of Missouri River, which, at this place, is crossed by ferry-boats.

St. Louis, Missouri.

ST. LOUIS, located on the west bank of Mississippi River, about 20 miles below the mouth of the Missouri, and 1,200 miles distant from New Orleans, is a large and important commercial city not only of Missouri, but of the entire valley of the Mississippi. The city is generally well built, and contains numerous costly public edifices. It extends along the river for about seven miles, and presents an imposing appearance when approached from the water.

ST. GENEVIEVE, situated on the Mississippi about 60 miles below St. Louis, is the shipping port for the products of the iron works at Iron Mountain. Large quantities of copper, lead, and white sand, are exported from this place; the last article is extensively used in the glass works of Pittsburg and Boston.

INDEPENDENCE, located about five miles south of Missouri River, carries on considerable trade, being the place where many of the emigrants, on their way to Oregon or California, procure their outfit.

LESSON LV.

MAP STUDIES—Iowa.

State the situation of the following Cities and Towns, viz.:—Columbus, Garnaville, Dubuque, Bellevue, Lyons, Cedar Rapids, De Witt, Davenport, Muscatine, Iowa City, Mount Pleasant, Burlington, Fort Madison, Keokuk, Keosauque, Fairfield, Ottumwa, Oskaloosa, Knoxville, New Buda, Austin, Kanesville, Fort Des Moines, Newton, and Marengo.

IOWA

Area in sq. miles, 51,000. Population, 192,000. Inhabitants to a sq. mile, 4. Counties, 98.

Geographical Position, etc.—Iowa lies north of Missouri, between the Mississippi and Missouri Rivers. It extends about 300 miles from east to west, and from north to south about 200 miles.

Surface.—The general surface is that of a high-rolling prairie, there being nothing in the limits of the state which approaches a mountain in elevation. A tract of table-land extends through a considerable part of the state, dividing the waters which flow into the Mississippi from those which flow into the Missouri. The banks of the streams are generally skirted with wood.

Soil, etc.—The soil is exceedingly fertile and easily cultivated, except in the north-east, where it is rugged and rocky. The climate is temperate and healthful.

The staple products are Indian corn, wheat and live-stock. The lead mines in the vicinity of Dubuque are among the richest in the United States. Coal is abundant; iron ore and copper have been found in considerable quantities.

Inhabitants, etc.—Iowa was settled by the French, and originally formed a part of the Louisiana purchase. The present inhabitants mainly consist of emigrants from the other states in the Union, and from Europe. Agriculture is the leading pursuit. Much attention is paid to the production of wool and the raising of swine for market.

Manufactures and Exports.—Iowa is not yet extensively engaged in manufactures, though she possesses the two great elements for manufacturing industry, viz.—plenty of coal and an abundance of water-power. The chief exports are grain, flour, lead, and pork.

Cities, etc.—Iowa City, the capital, lies on the left bank of Iowa River, which is navigable by steamboats from its mouth to this place, a distance of about 80 miles.

Dubuque, situated on the west bank of the Mississippi, about 450 miles above St. Louis, is the great central depôt of the mineral region of Iowa.

Burlington, located on the west bank of the Mississippi, is a place of considerable commerce. It is connected with the Illinois shore by a steam ferry.

Keokuk lies at the foot of what are called the lower rapids of the Mississippi, immediately above the mouth of the Des Moines. Steam-packets ply daily between this place and St. Louis, which is about 200 miles distant.

LESSON LVI.

MAP STUDIES.—Illinois.

Describe the following Cities and Towns, viz.:—Savannah, Galena, Freeport, Dixon, Rockford, Belvidere, Waukegan, Aurora, Chicago, Joliet, Morris, Kankakee City, Danville, Paris, Newton, Lawrenceville, Mt. Carmel, Shawneetown, Elizabethtown, Cairo, Benton, Kaskaskia, Centralia, Belleville, Illinois Town, Alton, Grafton, Carlinville, Winchester, Jacksonville, Naples, Quincy, Warsaw, Nauvoo, Oquawka, New Boston, Rock Island, Fulton, Ottawa, La Salle, Peru, Lacon, Pontiac, Bloomington, Peoria, Lewiston, Havanna, Springfield, Decatur, Shelbyville, and Vandalia.

ILLINOIS.

Area in sq. miles, 55,400. Population, 851,000. Inhabitants to a sq. mile, 15. Counties, 100.

Geographical Position, etc.—This state lies south of Wisconsin, west of Indiana, and east of Mississippi River, which separates it from Iowa and Missouri. Its extreme length is about 380 miles and its average breadth 140.

Surface.—By far the greater part of the state is a table-land from 300 to 800 feet above the level of the Gulf of Mexico, sloping toward the south, as the course of the rivers indicates. There are no mountains, and the surface abounds in large and fertile prairies, which are here and there skirted with wood. These prairies are not generally flat, but gently undulating, and not unfrequently decked with a great variety of beautiful wild flowers of almost every hue.

Soil, etc.—The soil is, for the most part, fertile; the climate is healthy and milder than in the Atlantic States lying in the same latitude. The great staple products of this State are Indian Corn, wheat, oats, hay, butter, cheese, and potatoes. It ranks third in the

Union, in the amount of corn annually produced. Berries and table fruits are abundant.

Lead and coal are the chief minerals, and iron-ore is found in many localities. Salt Springs, from which large quantities of salt are manufactured, exist in the southern part of the state.

Chicago, Illinois.

Inhabitants, etc.—This state was settled by the French. At the close of the war which gave to Great Britain the Province of Canada, Illinois was ceded by France to the English; and at the close of the war of the Revolution, it came, with all the territory east of the Mississippi, in possession of the United States. Agriculture forms the chief employment of the present population.

Manufactures and Exports.—Illinois is not noted as a manufacturing state. Agriculture is the leading pursuit, and the capabilities of the state in this respect are unsurpassed by any other state in the Union. Lead forms an important article of export.

Cities.—Springfield, the capital, is located near the central part of the state, on the border of a large and beautiful prairie, about three miles south of the Sangamon, and 230 miles south-west of Chicago.

Galena, situated on Fevre River, about six miles above its entrance into the Mississippi, is the metropolis of the lead region of northern Illinois.

Chicago, the most populous and commercial city in the state, lies on the south-west shore of Lake Michigan on both sides of Chicago

River. The ground on which the city is built is a level plain, elevated about five feet above the surface of the Lake.

Chicago is the great shipping depôt of an immense and fertile region, as it communicates by a daily line of steamers with Buffalo, and other intermediate ports on the great Lakes.

PEORIA, on the west bank of Illinois River, at the outlet of Peoria Lake, is an important commercial city of Illinois. A drawbridge (2,500 feet long) spans the river at this place.

LESSON LVII.

MAP STUDIES.—INDIANA.

Describe the situation of the following Cities and Towns, viz.:—Michigan City, La Porte, South Bend, Lima, Warsaw, Fort Wayne, Marion, Muncie, Winchester, New Castle, Richmond, Rushville, Brookville, Lawrenceburg, Vevay, Madison, Brownstown, Salem, Jeffersonville, New Albany, Cannelton, Evansville, Princeton, Washington, Vincennes, Bloomington, Spencer, Martinsville, Terre Haute, Green Castle, Rockville, Crawfordsville, Covington, La Fayette, Monticello, Logansport, Peru, INDIANAPOLIS, Shelbyville, and Franklin.

INDIANA.

Area in sq. miles, 34,000. Population, 988,000. Inhabitants to a sq. mile, 29. Counties, 91.

Geographical Position, etc.—This state lies between Ohio on the east, and Illinois on the west; and extends from Lake Michigan and Michigan State, on the north, to the Ohio River. Its greatest length is about 375 miles, and its width about 140.

Surface.—There are no mountains in the state. The southern part, along and near the Ohio, is hilly; and in the south-west, it is somewhat rocky and broken. The remainder of the state is generally level, interspersed here and there with extensive prairies and rich bottom-lands, thickly studded with forests. The general inclination of the surface is toward the Ohio.

Soil, etc.—The soil, for the most part, is fertile, and the climate is similar to that of Illinois. Indian corn is the staple product; in this, Indiana ranks fourth in the Union. The other leading products are wheat, oats, potatoes, fruits, butter, live-stock, wool and maple-sugar. Of minerals, coal and iron-ore are the most important.

Inhabitants, etc.—This state was settled by the French. In 1800,

it, together with the present state of Illinois, was erected into the Indian Territory; and, sixteen years after, was admitted into the Union as an independent state.

Agriculture forms the chief employment. In the south-eastern part of the state, the vine is successfully cultivated by a company of Swiss settlers.

Manufactures and Exports.—Though this state possesses ample water power, yet it is not, as yet, engaged in manufactures to any very great extent. Indiana carries on an active lake and river trade. The leading articles of export are live-stock, pork, beef, lard, Indian corn, wheat and wool.

The State House, Indianapolis

Cities.—Indianapolis, the capital, is situated on the east side of the West Fork of White River, in the central part of the state. Being the terminus of several railroads, it is destined to become a very important city of the West. A bridge spans the river at this place.

Fort Wayne, located at the junction of the St. Joseph's and St. Mary's Rivers, is the business depôt of a highly fertile section of country.

Madison, on the north bank of the Ohio, about 90 miles below Cincinnati, is a place of considerable commercial importance. It is noted for its extensive establishments for packing pork.

New Albany, an important commercial city of Indiana, lies on the right bank of the Ohio two miles below the falls of the river, and

three miles below Louisville. Steamboat building is more extensively carried on at this place than at any other port on the Ohio.

La Fayette, situated on the left bank of the Wabash, at the head of steamboat navigation, is the principal grain market in the state.

LESSON LVIII.

MAP STUDIES.—California.

State the situation of the following Cities and Towns, viz.:—Humboldt City, Klamath, Marysville, Culloma, Sonora, San Diego, Los Angelos, Santa Barbara, Monterey, San José, San Francisco, Vallejo, Benicia, Sonoma, Placer City, Sacramento City, and Stockton.

CALIFORNIA.

Area in sq. miles, 189,000. Population, 264,000. Inhabitants to a sq. mile, 1. Counties, 36.

Geographical Position, etc.—This state lies south of Oregon, and extends westward from Utah and New Mexico to the waters of the Pacific Ocean. Its greatest length is about 700 miles, and its greatest breadth about 330.

Surface.—A large portion of the state is traversed by mountain ranges. The great valley of the Sacramento and San Joaquin extends from north to south about 500 miles, with an average breadth of about 60 miles. This valley is bounded on the east by the Sierra Nevada, and on the west by the Coast Range of mountains. On the western slope of the former are the principal gold mines of California.

Soil, etc.—The soil in the valleys is exceedingly fertile. The climate is noted for its periodical changes, and the year is divided about equally into two seasons—the wet and the dry. The wet season (in the latitude of San Francisco) lasts from the middle of November to the middle of May.

Among the chief agricultural products are barley, wheat, potatoes and fruits. Oats grow wild in great quantities, and grapes flourish in all parts of the state. Fish are fine and abundant. Wild animals inhabit some sections of the state.

In the abundance of its minerals, particularly of gold, California takes the lead of the other states in the Union. The quicksilver mine of New Almaden, about 13 miles south of San José, is probably the richest in the world.

Natural Curiosities.—Among the most remarkable curiosities are the hot sulphur springs, situated about 90 miles north of Benicia. They

are from 1 foot to 9 feet in diameter, and constantly eject water, in a boiling state, to the height of 10 or 15 feet.

Inhabitants, etc.—California was first colonized by the Spanish. In 1822, it became a province of the Republic of Mexico; and in 1848, Mexico ceded it to the United States. The present inhabitants consist chiefly of emigrants from the older states in the Union, and from various other parts of the world. Mining is the leading industrial pursuit. Commerce receives considerable attention.

Manufactures and Exports.—Manufactures are few, and gold dust forms the chief article of export.

Cities.—Sacramento City, the capital, situated on the left bank of Sacramento River, is a noted commercial port of California, being accessible for steamers and vessels of a large size.

San Francisco, the great commercial metropolis of California, lies on the west side of San Francisco Bay. Its commerce is extensive. The entrance to this city from the ocean is through a narrow strait, about one mile in width and four miles long, called the "Golden Gate."

Benicia, situated on Karquenas Strait, which connects the waters of San Pablo and Suisun Bays, contains an arsenal, a navy-yard, and large docks, for the repairing and refitting of steamers. Marysville, on the right bank of Yuba River, is a convenient place of resort for the miners during the rainy season.

LESSON LIX.

MAP STUDIES.—Systematically Arranged.

THE SOUTHERN AND WESTERN STATES.

Describe the following Capes, viz.:—Charles, Henry, Hatteras, Lookout, Fear, Romain, Canaveral, Florida, Sable, Roman, St. Blas, *Conception, and *Mendocino.

Describe the following Mountain Ranges, viz.:—Blue Ridge, Alleghany, Cumberland, Ozark, *Sierra Nevada, *Coast.—(Peaks) *Shaste, *Diabolo, and Iron.

Describe the following Gulfs and Bays, viz.:—Kewenaw, Green, Saginaw,—Chesapeake, Raleigh, Onslow, Long,—Chatham, Tampa, Wakasassa, Appalachee, St. Joseph's, Pensacola, Mobile, Black, Barataria, Timbalier, Atchafalaya, Vermillion, Galveston, *Matagorda, *Corpus Christi,—*Monterey, and *San Francisco.

Describe the following Lakes, viz.:—Superior, Michigan, Winnebago, Huron, St. Clair, Erie, Monroe, George, Pontchartrain, Borgne,

* See Map of United States.

Itasca, Pepin, Fourth, Albert Lea, Spirit, Calcasieu, Okee-cho-bee, *Kern, and *Tule.

Describe the following Rivers, viz.:—Montreal, Ontonagon, St. Mary's, Menomonee, Fox, St. Josephs, Kalamazoo, Grand, Maskegon, Manistee, Thunder Bay, Au Sable, Saginaw, Flint, Shiawassee, Titti-bawassee,—St. Clair, Detroit, Huron, Raisin, Maumee, St. Marys, St. Josephs, Auglaize,—Sandusky, Cuyahoga, † Choptank, † Nanticoke, † Patapsco, † Severn, † Patuxent, and † Monocacy.

PART II.

Describe the following Rivers, viz:—Potomac, Shenandoah, North Fork,—Rappahannock, James, Appomattox,—Chowan, Nottoway, Meherrin,—Roanoke, Staunton, Dan,—Tar, Neuse, Cape Fear, Haw, Deep,—Great Pedee, Santee, Wateree, Congaree, Broad, Saluda,—Edisto, N. Edisto, S. Edisto,—Savannah, Ogeechee, Altamaha, Oconee, Ocmulgee,—Santilla, St. Marys, St. Johns, Withlacochee, Suwanee, Allapahaw,—Appalachicola, Flint, Chattahochee, Choctawhatchee, Yellow Water, Black Water, Escambia, Conecuh, Perdido, Mobile, Alabama, Tallapoosa, Coosa, Oostanaula, Etowah, Tombigby, Black Warrior, Mulberry Fork, Locust Fork,—Pascagoula, Chickasawha, Leaf,—Pearl.

PART III.

Describe the following Rivers, viz.:—Mississippi, St. Croix, Chippewa, Clearwater, Black, Wisconsin, Rock, Illinois, Des Plaines, Kankakee, Iroquois, Sangamon, Fox, Spoon,—Kaskaskia, Big Muddy, Ohio, Monongahela, Alleghany, Muskingum, Hocking, Scioto, Little Miami, Miami, Wabash, White, West Fork, East Fork, Tippecanoe, Little Kanawha, Great Kanawha, Gauley, Elk, Guyandotte, Big Sandy, Licking, Kentucky, North Fork, South Fork, Salt, Green, Cumberland, Tennessee, Duck, Forked Deer, Wolf, Yazoo, Yallabusha, Tallahatchie, Sunflower, Amite;—

Upper Iowa, Turkey, Iowa, Red Cedar, English, Skunk, Des Moines, *Missouri, Little Sioux, Nishnabatona, Grand, East Fork, West Fork, Locust Cr., Chariton, Osage, Sac, Gasconade, St. Francis, White, Big Black, Current, Little Red, *Arkansas, Washita, Bayou Bœuf, *Red,—Bayou La Fourche, Atchafalaya, Calcasieu, Sabine, Neches, Trinity, Brazos, Colorado, Guadaloupe, Nueces, Rio Grande, Puerco, Sacramento, Feather, Yuba, San Joaquin, and Klamath.

* See Map of the United States. † See Maryland on the Map of the Middle States

LESSON LX.

MAP STUDIES.—THE TERRITORIES OF THE UNITED STATES.

State the boundaries of the following Territories, viz.:—Washington, Nebraska, Minnesota, Kansas, Indian, New Mexico, Utah, and Oregon.

State the situation of the following Cities and Towns, viz.:—OLYMPIA, Pacific City,—OMAHA CITY, Nebraska City,—Pembina, Sauk Rapids, Stillwater, Fort Snelling, ST. PAUL, Minnesota City, Mankato,—Atchison, Fort Leavenworth, Fort Riley, Ashland, LECOMPTON, Lawrence, Council City, Shawnee Mission,—TAHLEQUAH,—Taos, SANTA FE, San Miguel, Albuquerque, Valencia, Socorro, Donna Anna,—Ogden City, Salt Lake City, Provo City, Manti, FILLMORE CITY, Parovan,—Portland, Oregon City, SALEM, and Umpqua.

Describe the following Capes, viz.:—Foulweather, Disappointment, and Flattery.

Describe the following Mountain Ranges, viz.:—Cascade, Blue, Salmon River, Rocky, Black Hills, and Humboldt River.

Describe the following Lakes, viz.:—Mountain, Klamath, Pyramid, Humboldt, Great Salt, Utah, and Nicollet.

Describe the following Rivers, viz.:—Minnesota, Yellow Stone, Big Horn, Tongue, Little Missouri, Mankizitah, Running Water, Platte, N. Fork, S. Fork,—Kansas, Republican Fork, Smoky Hill Fork,—Cimarron, Canadian, N. Fork,—Rio Colorado, Green, Grand, St. John's, Gila, Bonito, Salt, San Francisco, Virgen,—Columbia, Clarke's, Lewis, Salmon, Kooskooskie, Owyhee, Fall, Willamette,—Humboldt, Bear, and Nicollet.

LESSON LXI.

THE TERRITORY OF WASHINGTON.

Area in square miles, 113,820. Estimated population, 5,000.

This territory lies between British America and Oregon, and extends from the Rocky Mountains on the east, which separate it from Nebraska, to the Pacific Ocean. The soil is generally fertile, except in the mountain districts; and the climate is remarkably mild for so high a latitude. It was formerly a part of Oregon.

THE TERRITORY OF NEBRASKA.

Area in square miles, 528,720. Population, ——.

This territory embraces all that portion of land lying between the 40th and 49th parallels of latitude, and extends from Missouri River on the east, to the Rocky Mountains on the west.

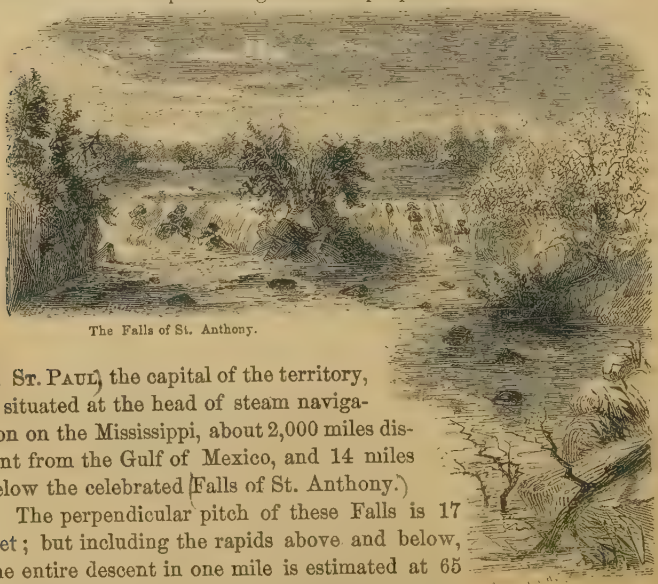
From the Missouri westward to the base of the Rocky Mountain Range, the surface is little else than one vast rolling prairie, here and there diversified by a stream of water. These prairies afford an inexhaustible supply of pasturage for cattle. Countless herds of bison, elk and deer are to be found in this territory.

THE TERRITORY OF MINNESOTA.

Area in square miles, 141,840. Population, 35,000.

This territory lies on the east side of Missouri River, and extends from British America on the north to Iowa on the south.

Though there are no mountains, properly so called, in the territory, yet it is the most elevated tract of land between the Gulf of Mexico and Hudson Bay. Its surface, therefore, is an elevated table-land, mostly occupied by prairies, watered by numerous streams and lakes. The soil is well adapted to agricultural purposes.



The Falls of St. Anthony.

St. Paul, the capital of the territory, is situated at the head of steam navigation on the Mississippi, about 2,000 miles distant from the Gulf of Mexico, and 14 miles below the celebrated Falls of St. Anthony.

The perpendicular pitch of these Falls is 17 feet; but including the rapids above and below, the entire descent in one mile is estimated at 65 feet. An island, at the brow of the precipice, divides the current into two parts, the larger of which passes on the west side of the island.

THE TERRITORY OF KANSAS.

Area in square miles, 136,700. Population, ——

This territory lies between the parallels of 37° and 40° north latitude, and extends from Missouri on the east, westward, as far as the Territories of Utah and New Mexico.

The surface is generally level, and the soil varies considerably. In some parts of the territory, particularly along the margin of the streams, the soil is rich. Fertile prairie lands are scattered here and there, interspersed with extensive sandy plains.

Immense herds of the American bison, or buffalo, wander over these plains.

Kansas, since its erection into a territory, is being rapidly settled by emigrants from various parts of the Union.

THE INDIAN TERRITORY.

Area in square miles, 187,170. Population, 110,000.

Indian Territory is situated south of Kansas, and north of Red River, which partly separates it from Texas.

This tract of land has been set apart by the government of the United States for the permanent residence of those Indian tribes that formerly occupied portions of some of the south-western states. The United States government exercises no control over the territory, except when it may be necessary to preserve peace on the frontier.

THE TERRITORY OF NEW MEXICO.

Area in square miles, 210,770. Population, 61,500.

New Mexico extends from Texas on the east to California on the west. Utah is on the north and Mexico on the south.

The surface is generally mountainous. The great valley of the Rio Grande, about 20 miles in width, crosses the territory from north to south. The soil is, for the most part, sterile. In the river-valleys, where recourse can be had to irrigation, agriculture is pursued to some extent.

The climate of the territory is more temperate than those portions of the Southern States that lie in the same latitude, owing to its surface being more elevated. Minerals are abundant.

Santa Fé, the capital, is situated on a small river, about 15 miles distant from its entrance into the Rio Grande. It is on the great

caravan route from St. Louis, in Missouri, a distance of about 1,000 miles.

THE TERRITORY OF UTAH.

Area in sq. miles, 187,920. Population, 11,400.

This territory extends westward from the Rocky Mountains to the Sierra Nevada Range.

That part of the territory lying west of the valley of the Colorado is denominated the Great Basin, and forms a distinct region. One peculiarity of this section is, that all its rivers terminate within its limits, in lakes that have no visible outlets. The valleys are fertile, but most of the land is barren.

Grain and garden vegetables are the chief products. The inhabitants are chiefly Mormons.

THE TERRITORY OF OREGON.

Area in sq. miles, 227,640. Population, 12,000.

Oregon lies north of California and Utah, and extends westward from the Rocky Mountains to the Pacific Ocean.

Much of the surface is mountainous, but it abounds in fertile valleys. Wheat is the staple production. Oregon is noted for forests of gigantic pine trees. The leading exports are lumber, live-stock and flour.

Salem, situated on the right bank of the Willamette, is one of the most important towns in the territory.

THE DISTRICT OF COLUMBIA.

Area in square miles, 60. Population, 52,000.

This district embraces a small territory, situated on the north-east side of Potomac River, which was ceded to the General Government of the United States by the State of Maryland. It is set apart as the site of the Capital of the United States. In this district are situated the cities of Washington and Georgetown; the former is the capital of the United States.

The city of Washington is finely located between Potomac River and its eastern branch. Among the many public buildings of Washington may be mentioned the Capitol (a superb edifice, in which the Congress of the United States meets), the President's House, the Smithsonian Institute, the Treasury Buildings, and the Patent Office.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE COUNTRIES OF NORTH AMERICA.

LESSON LXII.

1. In what hemisphere is North America? What is North America? How does it rank in size compared with the other grand divisions of the earth? Third. How in population? Fourth. How is North America bounded? Which are its chief countries?

2. Of these countries, which two border on the Arctic Seas? Which two on the Atlantic? Which five have a sea-coast on the Pacific? Which three have a coast bordering on the Gulf of Mexico? Which three on the Caribbean Sea? Which two extend from the Atlantic to the Pacific? Which one from the Gulf of Mexico to the Pacific?

3. In what zones does North America lie? Is any part of the United States in the torrid zone? Is any part of Mexico? What part? What three countries lie wholly in the torrid zone? What two lie partly in the frigid zone? Which are the coldest countries of North America? Which four have the hottest climate? Which one possesses a medium climate?

4. By what means is the Arctic connected with the Pacific? What sea south of Behring Strait? What large bay indents the northern shore of Continental British America? By what strait does it most directly communicate with the ocean? What large gulf washes the south-east coast of British America? What island to the east of that gulf?

5. What large island lies east of Baffins Bay? What one still further east? Where are the West India Isles? What chain of islands lies west of Alaska? What country of North America lies nearest to South America?

6. How is Central America bounded on the north? Balize on the north? Yucatan on the north? Mexico on the north? On the east? United States on the east? On the north? British America on the west? On the north? Russian America on the west?

7. Which is the largest country of North America? U. S. The next in size? The smallest? B. What is the length of North America, from Cape Sable to Cape Lisburn? What is its greatest breadth equal to? Into how many distinct physical regions is North America divided?

8. What lakes belong to the basin of the Mackenzie? What to the St. Lawrence? Why do we call the American Continent, the "New World?" Who discovered the American Continent? Who was the first explorer of North America?

9. By whom was North America inhabited when it was discovered by the Europeans? What races now inhabit it? What country in the north-west

part of North America? Do we know much respecting Russian America? Why? By whom is it inhabited?

10. What political division is Russian America? A colony. To what nation does it belong? Is not the climate very severe and the soil sterile? What then renders this colonial possession of importance to Russia? By what means does Russia keep up a communication with this distant colony?

11. What country occupies the northern Continental portion of North America, east of Russian America? How is this country divided? Which is the largest of those divisions? To whom does it belong? By whom is this part of British America chiefly inhabited?

12. What are the leading employments? Which is the capital and chief trading settlement of the Hudson Bay Company's Territory? Of the provinces of British America, which two are insular? Which one of the continental provinces is divided into two parts by the Ottawa?

13. Which one is a peninsula? Which two border on the United States? Which one does not? Of what province does Cape Breton Island form a part? To what province does Anticosti belong? How is the Canadian Province bounded? What rivers empty into Hudson Bay from the west? Which one of these is the outlet of Lake Winnipeg?

14. What river is the final outlet of the great lakes that form the boundary between British America and the United States? What river empties into the St. Lawrence near Montreal Island? Of what lakes is that river the outlet? Which Canada borders on all the great boundary lakes? Of the towns in this part of the Canadian province, which one is on the Ottawa?

15. Which four on Lake Ontario? Which one at the head of the lake? Which one at the outlet of the lake? Which one is on Detroit River? Which on Niagara? Which one on the St. Lawrence? At what place on the Ottawa is there a suspension bridge which unites the two Canadas?

16. For what is Kingston noted? How does Canada compare in climate with European countries in similar latitude? Is Canada noted for its manufactures? What are the leading articles of export?

LESSON LXIII.

REVIEW QUESTIONS CONTINUED.

1. On which side of the Ottawa is Canada East situated? Of its cities and towns, which one is at the mouth of the St. Maurice? Which one at the mouth of the Sorel or Richelieu? Which one on an island in the St. Lawrence? Which one on the St. Francis?

2. Which one on the left bank of the Sorel? Which one on the south bank of the St. Lawrence, opposite Montreal Island? How is Quebec naturally divided? Describe the city. What is the extent of the island on which Montreal is situated?

3. How is this city connected with Portland in Maine? Which is further down the St. Lawrence, Montreal or Quebec? What celebrated falls a few miles north-east of Quebec? Where are the Falls of Chaudière? By whom is Canada East chiefly inhabited?

4. What is the leading industrial pursuit? Are the inhabitants of Canada West mainly French settlers and their descendants? What are they? What river forms the boundary line between Canada and New Brunswick? What river divides New Brunswick into two parts?

5. Describe that river. Of the towns in New Brunswick, which one is on the right bank of the St. John's? Which one on the left? Which one on the St. Croix? Which on Chaleurs Bay? Which on Miramichi Bay? Is the land in New Brunswick generally cultivated?

6. In the cultivated districts, what vegetable forms the chief article of culture? What minerals are said to be abundant? What projects are in contemplation to increase the traveling facilities of this province? Are they at present equal to those of Canada?

7. What important manufacturing business is carried on at St. John? Do manufactures form a characteristic pursuit among the inhabitants of New Brunswick? What do? In what do their leading exports consist? About how wide is the isthmus that connects Nova Scotia with New Brunswick? Are there any mountains in Nova Scotia?

8. What city is the capital? For what is this city the chief naval station? What important steamers touch at this place on their way across the Atlantic? What bay nearly separates this province from New Brunswick? What cape at the southern extremity of Nova Scotia? What large island at the entrance of the Gulf of St. Lawrence?

9. How does Newfoundland differ from New Brunswick, as far as timber is concerned? How with Prince Edward's Island? What are the chief resources of the Newfoundlanders? Where are the most extensive fishing grounds? Are there many towns in Newfoundland?

10. Which is the only one worthy of note? What division of Continental British America belongs to Newfoundland? Who annually visit this coast? What for? What religious society have established settlements along the coast? The Moravians.

11. Which is the chief settlement? What island forms a part of the province of Nova Scotia? What arm of the sea nearly intersects this island? What is the chief resource of the inhabitants?

12. What insular colony lies east of New Brunswick? What strait separates these two colonies? For what is the capital town of Prince Edward's noted? What small group of islands lies in the Gulf of Mexico? Are they inhabited? By whom?

13. What island lies at the mouth of the St. Lawrence? Is that island inhabited? What province lies north-west of Nova Scotia? North of

Canada? How far west does this Company's territory extend? What large island in the Pacific has been made over to this Company?

14. To what government are all the provinces in British America subject? To the government of Great Britain. What division of the United States lies directly west of New Brunswick? To what section of the Union does it belong? How many sections are there in the United States?

15. How many states compose the New England section? How many the Northern or Middle? How many the Southern? How many the Western? How many territories are there? What city is the capital of the United States? How many square miles of surface are there in the United States? About how many inhabitants are there to a square mile?

16. Into how many distinct physical regions may the United States be divided? Which are they? To what grand division of the earth are the United States nearly equal in size?

17. What political division do the United States form? The United States form a federal democratic republic. Of what did this country consist in 1775? Of 13 colonies, under the government of Great Britain. When did the colonists throw off their allegiance to the mother country?

18. After this, what were the colonies styled? Which were the thirteen original states? How many have since been added? In whom is the legislative power of the government of the United States vested? Of what does Congress consist? How many Senators are there? To how many Representatives is each state entitled?

LESSON LXIV.

REVIEW QUESTIONS CONTINUED.

1. Of the New England States, which one lies wholly west of the Connecticut? What mountains traverse this state? What three states lie wholly east of the Connecticut? Which one of these has the least sea-coast? Which one the most?

2. After leaving the borders of Vermont and New Hampshire, through what two states does the Connecticut flow? What range of mountains crosses the western part of Massachusetts? Which three, of the New England States, border on the British Provinces? Which three do not?

3. What large lake lies between Vermont and New York? How is the climate of Vermont? Is Vermont noted for manufactures? What is the leading industrial pursuit? Of the cities and towns in this state, which one is on Lake Champlain? Which three on the Otter River? Which two on the Winooski, or Onion River?

4. Which are the most important towns (in this state) on the Connecticut? Of these, which one is furthest south? Which one is opposite Hanover? What city is the capital of the state? Which is the chief commercial town?

What large lake in eastern New Hampshire? What river is its outlet? Winnipiseogee River.

5. What is the upper part of the Merrimac called? Through what states does the Merrimac flow? Where are the White Mountains? Of the cities and towns in New Hampshire, which one is on Winnipiseogee Lake? Which one at the mouth of the Piscataqua? Which one on the Merrimac, a few miles above Lowell? Which one on the same river about 20 miles below Concord? Which are on the Connecticut? Which two on the Ashuelot?

6. What is the general character of the surface of New Hampshire? Is this state noted for its foreign commerce? Is it noted for manufactures? What mineral is very abundant in this state? What city is the only seaport? How is it situated? What place is the seat of Dartmouth College?

7. Which are the most important manufacturing towns of New Hampshire? What are the leading exports? What state borders on New Brunswick? Which are its most important rivers? Of these, which are branches of the Penobscot? Which of the Kennebec? Which are the most important branches of the Connecticut?

8. In sailing down the Penobscot, what towns do you find on the right bank? What ones on the left? What ones on Penobscot Bay? C . . . . . e, C . . . . n and B. How is Thomaston situated? South-west of Camden on St. George's River, about 12 miles from the ocean. How is Wiscasset situated? On a small river, called Sheepscot.

9. On which side of the Kennebec is Bath? What two towns on the Androscoggin? Is Maine noted for its mountains? What is the length of the sea-coast, including indentations? What portion of the surface of Maine is covered with water? Name some of the most important lakes For what branch of manufacturing industry is Maine noted? Why is there so much of this business carried on here?

10. Is the soil well adapted to agriculture? What town on the Penobscot is a noted lumber depôt? Which is the chief sea-port of Maine? Describe the situation of Eastport. What are the leading articles of export in Maine? What bays indent the coast?

11. What bays indent the east coast of Massachusetts? How long is this state? Which is the largest of the New England States? Which the smallest? How is Massachusetts bounded? What is the general character of its surface? How does this state rank in regard to commerce? How in manufactures? What form the chief articles of export?

12. By whom was Massachusetts settled? Which is the chief commercial emporium of New England? How is it situated? What are the chief productions of Massachusetts? Is there enough grain raised for home consumption?

13. Which one of the cities of Massachusetts is called the "Manchester of America?" Why? What city is noted for the manufacture of shoes? What one is noted for being largely engaged in the whale fishery? In what city is

the United States Arsenal located? Of the cities and towns on the map of Massachusetts, which are on the Connecticut?

14. What one is situated near the mouth of the Merrimac? What important manufacturing city is situated on both sides of this river, a few miles below Lowell? What two on Taunton River? What capes project from the east coast of Massachusetts? What river empties into the harbor of Boston, north of the city?

15. Where is Plymouth? For what is this town noted? It is noted as being the oldest town in New England, having been settled by the Pilgrims in 1620. What two large islands off the south-east coast of Massachusetts?

16. What state in New England has no mountains? How does this state rank in manufactures? How in commerce? For what fruit is this state celebrated? In what two cities does the legislature meet alternately? Which one of these is noted for its commerce? For what is Newport celebrated? For what is Pawtucket noted?

17. What is the length of the State of Connecticut? Describe the general character of the surface of this state. Of what origin are the inhabitants of the New England States? In what do the exports from Connecticut mainly consist? Through what ports is most of the foreign commerce carried on?

18. Which are the capital cities of Connecticut? What celebrated college at New Haven? Describe Hartford. What city on the Thames is extensively engaged in the whale fishery? At what place is the Wesleyan University located? What city is noted for the manufacture of carriages?

LESSON LXV.

REVIEW QUESTIONS CONTINUED.

1. Of which one of the Middle States is Albany the capital? What state lies east of Maryland? East of Pennsylvania? How is New York bounded? Describe the general character of the surface of this state. What rivers flow into the St. Lawrence? What into Lake Ontario?

2. What river is the main branch of the Hudson? Where are the most fertile portions of the state? What celebrated medicinal springs in New York? What remarkable natural curiosity? In what two industrial pursuits does New York rank first in the Union? By whom was this state first settled?

3. Of the cities and towns on the map of New York, which are on the right bank of the Hudson? Which on the left? Which on the right bank of the Mohawk? Which one at the junction of the Chenango and Susquehanna? Which one on the Susquehanna a few miles to the west?

4. At the head of what lake is Jefferson situated? Ithaca? Caldwell? Whitehall? At the foot of what lake is Skaneateles situated? Penn Yan? Canandaigua? Cooperstown? Auburn? Geneva? Buffalo? What town

on the Chemung? What city at the mouth of the Oswego? What city on the Genesee? For what is Rochester noted? Describe the city of New York.

5. Where is Long Island? To what state does it belong? How is Staten Island situated? What river crosses Pennsylvania from north to south? Describe that river. What river separates New Jersey from Pennsylvania? What waters separate Long Island from Continental New York?

6. What city is the principal seaport of Long Island? What two cities in New Jersey opposite New York? Jersey City and Hoboken. By whom was New Jersey first settled? What are the chief productions of this state? For what are Paterson and Newark noted? What falls near Paterson?

7. What place in New Jersey is the depôt for the Cunard line of steamships? Between what ports do these steamers communicate? New York and Liverpool. Describe Trenton. What city in New Jersey opposite Philadelphia? Of the cities and towns in New Jersey, which two are on the Passaic? Which one on the Raritan? Which are on the Delaware?

8. For what is Cape Island noted, and how is it situated? It is situated in the extreme south part of the state, and is a noted watering place. Are there any mountains in Delaware? Any in New Jersey? Any in Pennsylvania? Any in New York? Any in Rhode Island?

9. Is Delaware the smallest state in the Union? Which one is? Is it the smallest of the Middle States? What are the chief exports of Delaware? Is Delaware noted for the extent of its foreign commerce? Is New Jersey? Is New York?

10. What are the leading objects of pursuit among the inhabitants of Delaware? Which is the most populous city in the state, and for what is it remarkable? What stream affords water-power for its manufactures? There is a state bordering on New York, which, though it possesses ample water-power, is not extensively engaged in manufactures:—what state is it?

11. What two of the Middle States are nearly of the same size? Which is the larger? There is a river that rises in Pennsylvania, and in its course, flows through a part of Western New York, whose waters finally mingle with those of the Mississippi:—what is the name of that river?

12. There is a river that crosses the boundary line between New York and Pennsylvania three times:—what river is it? Is this river navigable? What are floated down this river in the spring and fall? A river flows into the Delaware at Easton—what is the name of that river, and what two places are on its right bank?

13. An important city lies between the Schuylkill and the Delaware—what city is it? Describe that city. What place about 20 miles above Philadelphia on the Delaware? At the junction of the Alleghany and Monongahela is an important manufacturing city—what city is it?

14. What river empties into the Susquehanna at Athens? What two

rivers form the Chemung? Conhocton and Tioga. What two rivers flow into the Susquehanna below the Chemung? How does Pennsylvania rank in manufactures? How in commerce? What minerals are very abundant in this state?

15. Describe Pittsburg. What port has Pennsylvania on Lake Erie? What ports has New York on this lake? Does any part of Pennsylvania border on the Atlantic? Which is the chief commercial city? Can large vessels ascend the Delaware to this city? Yes, and a line of steamships is established between it and Glasgow, in Scotland.

16. In what state, and in what part of it, is each of the following cities and towns, viz. :—Plattsburg? Worcester? Pottsville? Lyons? Portland? Salem? New London? Lancaster? Carlisle? Wilmington? Camden? Ogdensburg? Calais? Bennington? Pittsfield? Litchfield? Brooklyn? Bridgeport? Jersey City? Watertown? Troy?

17. In what state do the following rivers respectively have their source, and into what body of water does each empty?—Penobscot? Blackstone? Connecticut? Genesee? Alleghany? Delaware? Kennebec? Housatonic? Merrimac? Otter? Concord? St. Croix? Monongahela? Black? Mohawk? Androscoggin? Oswego? Schuylkill?

18. In what state, and in what part of it, are the following lakes respectively situated, and what river is the outlet of each?—Umbagog? Champlain? Cayuga? Ontario? Oneida? George? Moosehead? Winnipiseogee? Memphremagog? Seneca? Canandaigua? Otsego? Grand? Chesuncook? Connecticut? What states bound New York on the east?

19. What bodies of water separate New York from Canada? Is there any part of Canada that directly borders on this state? What part? Where are the Catskill Mountains? What range passes through Pennsylvania and New Jersey, and enters the south-east part of New York? What is it called in the latter state? What other ranges in Pennsylvania beside the Blue Ridge?

LESSON LXVI.

REVIEW QUESTIONS CONTINUED.

1. Which is the largest of the Southern States? Which the smallest? Which border on the Atlantic? Which on the Gulf of Mexico? Are there any inland states belonging to the Southern section of the Union? Any to the Western? Any to the Middle? Any to the Eastern? Which one?

2. How is Maryland bounded? By whom was it settled? In honor of whom was it named? What part of this state is denominated the "Eastern shore?" What part of Maryland is mountainous? What is the difference between the outlines of this state and the outlines of Pennsylvania? How is the climate of Maryland compared with that of New York? What is the great staple production? What city is the capital?

3. What city is the great commercial metropolis of Maryland? Describe it. Where is Frederick City? At what place is St. John's College located? What other important public buildings in this city? What are Maryland's leading exports? What the leading industrial pursuits?

4. What place is situated at the mouth of the Susquehanna? Through how many States does this river flow? What river separates Maryland from Virginia? How is Virginia bounded? Into how many physical sections is this state divided? In which of these sections is the land generally fertile? Do manufactures form the leading industrial pursuit? What does?

5. What important port of entry has Virginia on the Ohio? Describe Norfolk. Describe Portsmouth. Is Virginia larger than Pennsylvania? There are two of the Western States that are larger than Virginia, which are they? M. and C. Of what state is Raleigh the capital?

6. Where is Fayetteville? Newbern? What sounds indent the coast of North Carolina? What rivers empty into Albemarle Sound? Describe Cape Fear River. Into how many distinct physical sections is North Carolina divided? What minerals are abundant? In what part of the state are the gold mines? Is this state noted for its manufactures?

7. For what is Beaufort noted? Describe Wilmington. Which is the chief commercial city of South Carolina? How is this state bounded on the south-west? Describe the general character of the surface of South Carolina. How many distinct varieties of soil are there in this state? What are the chief industrial pursuits? What are the leading exports?

8. For what is Hamburg noted? What city is opposite Hamburg? In what State is Augusta? Where is Macon? Of what river is the Ocmulgee a branch? What city near the mouth of that river? What is the staple production of Georgia? Describe Savannah.

9. What natural division of land is Florida? Are there any mountains in this state? What is the climate? In what do the exports from this state chiefly consist? Describe St. Augustine. For what is Pensacola noted? What state ranks first in the Union, in the amount of cotton annually produced? What one in the amount of sugar?

10. What part of Alabama is mountainous? How does the land slope? Describe Mobile. Where is Tuscaloosa? Wetumpka? Huntsville? Describe the Alabama. What state lies west of Alabama? What Southern States are particularly noted for the production of cotton? S. C., G., F., A., M., L., and T.

11. At what place is the University of Alabama located? What place is at the head of steamboat navigation on the Tennessee? In which of the Southern States are there no mountains? F., M., and L. Describe the general character of the surface of Mississippi. Is the leading pursuit in Mississippi manufactures or is it agriculture?

12. Describe Jackson. Which is the chief commercial city of Mississippi? Where is Vicksburg, and for what is it noted? What ports are on the Tombigby? Where is Grand Gulf? Brandon? Holly Springs? What river bounds Mississippi on the west? What lakes in the vicinity of New Orleans? Describe that city.

13. What are the staple productions of Louisiana? What articles are extensively manufactured? How much of Louisiana is under cultivation? What is the character of the surface of this state? For what is Alexandria noted? Where is Natchitoches? What state lies west of the Sabine?

14. How does Texas rank in size with the other states in the Union? What is the general character of the soil? What, at present, is the great staple production? Which is the chief commercial city? How is it situated? Describe Houston. What is the chief employment of the settlers? What are exported to the West Indies, from Texas?

15. What rivers in Texas? What Western State borders on Louisiana? What state lies north? What one north of that? What two states lie on the Mississippi River opposite Iowa? Which one of them is further north? How is Wisconsin bounded? What ports on Lake Michigan? Which of these are in Michigan? Which in Illinois? Which in Wisconsin? Which one is in Indiana?

16. What river is the outlet of Winnebago Lake? What place is at the mouth of that river? What place is at the south end of the lake? Describe Madison? Is Wisconsin a mountainous state? Is Michigan? Is Tennessee? Is Indiana? Is Illinois? Are there any mountains in Missouri? In Ohio? In Kentucky? In California? In Iowa? Describe Milwaukee.

LESSON LXVII.

REVIEW QUESTIONS CONTINUED.

1. Describe the general character of the surface of Wisconsin. What minerals are abundant? Which of the Western States are noted for their extensive lead mines? W., M., I., and Ill. Which one is noted for its extensive copper mines? Which one is noted for its salt, and its hot springs? What Middle State is noted for its salt, and medicinal springs? What Southern State for its sulphur springs?

2. In what State is the Mammoth Cave? In what the Natural Bridge? In what the Passaic Falls? Where is Niagara? What states border on the great northern lakes? Between what states does Lake Michigan lie? How is Michigan divided? What strait connects Lakes Michigan and Huron? Huron and St. Clair? Superior and Huron? St. Clair and Erie? Erie and Ontario?

3. What are these straits usually called? What rivers flow into Lake

Michigan? On which one of these is Lansing situated? Describe Detroit. Where is Monroe? St. Joseph? Marshall? Ann Arbor? Jackson? Grand Rapids? Ypsilanti? What is Michigan's extent of lake coast? It is about equal to the sea-coast of another state—which is it?

4. What is the general character of the surface of Ohio? What the soil? What important ports has Ohio on Lake Erie? What on the Ohio? To what cities is the greater portion of the exports of Ohio sent? What are its leading exports? Describe Cincinnati. What are the chief manufactures of Ohio? Where is Dayton? Columbus? Zanesville? Chillicothe? Steubenville? Springfield?

5. What states lie on the Ohio River opposite Kentucky? What river and mountains separate Kentucky from Virginia? Describe Louisville. By whom was Kentucky first explored? How does this state rank in the amount of tobacco annually produced? How in the amount of Indian corn? What forms the leading industrial pursuit?

6. Where is Lexington? Covington? Newport? Maysville? What two large rivers flow through portions of Kentucky and Tennessee? How is Tennessee naturally divided? Which division is mountainous? Mention the chief productions. Describe Nashville. Where is Memphis?

7. Of what state is Little Rock the capital? What are the staple productions of this state? What Western States are noted for their prairies? W., M., O., Ind., Ill., I., M., and A. What Southern State has an abundance of prairie land? T. Where is Helena? Arkansas?

8. What river divides the State of Arkansas? What one Missouri? Which is the chief commercial city of Missouri? Describe it. What city in Illinois, a short distance above the mouth of the Missouri? Describe the surface of Missouri. How is the soil? Is Missouri a manufacturing state? What form the leading pursuits of the inhabitants? What minerals are abundant?

9. What is the general character of the surface of Iowa? Bound Iowa. For what mines is this state noted? For what is California? For what Pennsylvania? For what North Carolina? For what New Jersey? For what Michigan? For what Illinois? Where is Keokuk? Dubuque? For what is it noted?

10. Describe Burlington. What is the character of the surface in Illinois? What are the great staples of this state? Which is the chief commercial city? Describe it. Where is Galena? For what is it noted? Where is Kaskaskia? What towns in this state on the Mississippi? On the Ohio? Where is Peoria? La Salle? Dixon? Vandalia?

11. What state lies east of Illinois? By whom was this state first settled? Is Indiana an agricultural or is it a manufacturing state? In what products, at the last census, did this state rank fourth in the Union? What constitute

the leading exports? What town is a noted grain market? Describe Madison. Where is New Albany?

12. What other towns has Indiana on the Ohio River? Where is Fort Wayne? Crawfordsville? Logansport? Terre Haute? What Western State borders on the Pacific? What city is its chief commercial metropolis? By whom was California first colonized? What is the climate of this state? For what is California noted? Where is Sacramento? Benicia? Marysville? San José?

13. In what state do the following rivers respectively have their source, what course does each flow, and into what body of water does each empty, viz.:—Ohio? Alabama? James? Santee? Savannah? Mobile? Pascagoula? Wabash? Rock? St. Joseph's? Tennessee? Shenandoah? Great Pedee? Altamaha? Pearl?

MEXICO, YUCATAN, BALIZE, AND THE CENTRAL AMERICAN STATES.

LESSON LXVIII.

MAP STUDIES.—Systematically Arranged.

State the Boundaries of the following Countries, viz.:—Mexico, Yucatan, Balize and Central America.

State the situation of the following Capital Cities, viz.:—Mexico, Merida, Balize, N. Guatemala, Comayagua, Leon, San José and San Salvador.

State the situation of the following Cities and Towns, viz:—(*In Mexico*)—Pitic, Arispe, El Paso del Norte, Chihuahua, Monclova, Monterey, Buena Vista, Matamoras, Victoria, Tampico, Jalapa, Vera Cruz, La Puebla, Tabasco, Villahermosa, Las Casas, Tehuantepec, Oaxaca, Acapulco, Colima, Guadalaxara, Mazatlan, Culiacan, Sinaloa, Guaymas, Loreto, Mapimi, Parras, Durango, Zacatecas, San Luis Potosi, Guanaxuato, Queretaro and Valladolid. (*In Yucatan*)—Sisal, Arena, Bacalar and Campeche. (*In Central America*)—Quesaltenango, Coban, Old Guatemala,—Omoa, Truxillo,—San Juan de Nicaragua, San Juan del Sur, Nicaragua, Granada—and Cartago.

LESSON LXIX.

MAP STUDIES.—Systematically Arranged.

State the situation of the following Peninsulas, viz.:—Lower California and Yucatan.

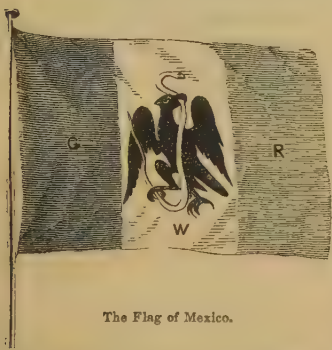
Describe the following Capes, viz.:—Roxo, Catoche, Honduras, Gracias à Dios, Blanco, Protrero, Corrientes and St. Lucas.

Describe the following Mountains, viz.:—Sierra Madre, Orizaba, Popocatepetl, Colima,—Cartago,—Coseguina and Agua.

Describe the following Gulfs and Bays, viz.:—Mexico, Campeche, Honduras, Dulce, Guatemala, Nicoyo, Fonseca, Tehuantepec, California and Ballinas.

Describe the following Lakes, viz.:—Tampico, Terminos, Managua, Nicaragua, Chapala and Tezcuco.

Describe the following Rivers, viz.:—Rio Grande, Conchas, San Juan, Santander, Tigre, Tampico, Tula, Tabasco, Usumasinta, Verde, Bolsas, Rio Grande de Santiago, Culiacan, Sinaloa, Fuerte, Yaqui, Pinas,—Balize,—Motagua, Segovia, Blewfields and San Juan.



The Flag of Mexico.

LESSON LXX.

THE REPUBLIC OF MEXICO.

Area in sq. miles, 856,000. Pop., 7,660,000. States, 22. Territories, 3.

Geographical Position, etc.—Mexico lies chiefly between the Gulf of Mexico and the Pacific Ocean. Its greatest length is about 2,000 miles, and its breadth about 1,000. It is divided into several states and territories.

Surface.—The surface is greatly diversified by mountain ranges and lofty peaks, some of which are volcanoes. The interior is an elevated table-land, sloping gradually to the coasts, which are generally low.

Soil, etc.—The soil in most parts is very fertile, and the climate hot and sickly on the coasts; but more healthy and agreeable in the interior. On the table-lands of the Sierra Madre the climate is cold; in all the regions situated on the slopes of the mountains it is temperate; and on the coasts it is generally hot.

The productions, like the climate, vary at different elevations; so that in Mexico may be found the fruits, vegetables and plants peculiar to almost every clime. Indian corn and the banana are the staple products. The *maguey*, a variety of the agave, or American aloe, furnishes a beverage called *pulque*, of which the inhabitants consume a great quantity.

Acapulco, Mexico.

A species of the cactus plant (noted as being the abode of the cochineal insect) is very abundant. This insect is very valuable for the red dye which it affords.

Minerals are abundant, particularly gold and silver. Horned cattle are numerous, and supply hides, &c., in great quantities.

Inhabitants, etc.—Nearly one half of the inhabitants are Indians; the remainder are divided between the Creoles, or people descended from European parents (almost wholly Spanish), and the Mestizoes, or mixed races. Tillage and mining form the chief pursuits. In most parts of Mexico, manufacturing industry is scarcely known.

Traveling Facilities.—Most of the roads are very defective. The only two carriage-roads deserving of note lead from the capital to the port of Vera Cruz. Mules are generally used for the transport both of passengers and merchandise. Improvements are being made in this respect in various parts of the republic.

Manufactures and Exports.—The chief articles manufactured are brandy, sugar, olive-oil, paper, glass-ware, gunpowder and soap. Bees'-wax is extensively collected in some parts. Of the exports, metals, cochineal, hides, cattle, dyewoods and medicinal herbs are the most important.

Cities.—Mexico, the capital, is situated in a vast plain of carefully cultivated fields, enclosed by lofty mountains, about two miles from Lake Tezcuco. The city is in the form of a square (each side of which is about 9,000 feet in length), and is enclosed by high walls. It is noted for its numerous churches, convents and squares. The city markets are abundantly supplied with animal and vegetable productions; the latter are chiefly cultivated on the *chinampas*, or floating islands, in the adjacent lakes.

La Puebla, a large city, lies about 80 miles to the south-east of the city of Mexico. It is noted for its numerous churches, and its manufactures of soap, glass, iron and steel.

Guadalaxara, situated near the Rio Grande de Santiago, is, next to the capital, the largest and most interesting city of the Mexican Republic. The natives of this city manufacture extensively a kind of jars of scented earth, which are in much request.

The chief seaports of Mexico are Tampico, Vera Cruz, Acapulco, Mazatlan and Guaymas.

LESSON LXXI.

THE REPUBLIC OF YUCATAN.

Area in square miles, 56,000. Population, 473,000. Departments, 5.

Geographical Position.—This peninsula, a State of the Mexican Confederation, lies between the waters of the Bay of Campeche, or Campeachy, and the Caribbean Sea.

Surface.—It is mostly level, and very deficient in *regular* supplies of water. In summer, the land is generally so inundated as greatly to impede agriculture.

Soil, etc.—The soil is poor, except in the south; and the climate hot and unhealthy. The chief products are logwood and mahogany. Maize, cotton, rice, tobacco and sugar-cane are considerable sources of wealth to the inhabitants. Cattle are numerous.

Inhabitants, etc.—The inhabitants are chiefly whites, though there are among them numerous Indians. Agriculture forms the leading pursuit. The form of government is republican.

Manufactures and Exports.—Dye-woods, mahogany, and hides form the leading exports.

Cities.—Merida, the capital, is situated about thirty miles from the north coast. It is connected with its port Sisal by a good road, and its trade is inconsiderable.

CAMPECHE, situated on the west coast about 90 miles south-west of Merida, is the principal seaport of Yucatan.

BALIZE, OR BRITISH HONDURAS.

Area in square miles, 15,000. Population, 10,000.

Geographical Position.—Balize, or Belize, is situated south of the Peninsula of Yucatan, and west of the Bay of Honduras.

Surface.—The coast is low and swampy, but the interior is hilly.

Soil, etc.—The soil is poor, and the climate, during the wet season, between the months of June and September, is unhealthy. Forests are abundant, and supply large quantities of mahogany and other timber. Wild animals, birds and turtles are numerous.

Inhabitants, etc.—The inhabitants are chiefly Indians and Negroes. The country is a colonial possession of Great Britain.

Manufactures and Exports.—There are no articles manufactured of any note. The chief exports are mahogany and other hard cabinet woods, cochineal, tortoise-shell, sarsaparilla, and cocoa-nuts.

BALIZE, the capital of the colony, is situated on a river of the same name. It consists of a long street bordering on the river, which contains the storehouses and residences of the principal merchants, and crossed by several inferior streets diverging from it at right angles. The town is surrounded by cocoa-nut plantations.

CENTRAL AMERICA.

Area in sq. miles, 200,000. Population, 2,200,000.

Geographical Position, etc.—Central America lies between Mexico and the Isthmus of Panama. It includes the State of Honduras, and the Republics of Nicaragua, Costa Rica, San Salvador and Guatemala.

Surface.—Lofty table-lands extend along the western coast, from which the country descends in terraces. In the east are extensive plains and low flats. There are numerous volcanoes, many of them in an active state, along the line of the Pacific coast.

Soil, etc.—The soil is generally rich and fertile. The climate varies according to the elevation; on the coast plains it is hot. Indigo, cotton, sugar, cocoa, mahogany, and logwood are among the most important products. Indian corn, rice, beans and plantains are raised in abundance, in some parts; and they form the staple food of the inhabitants. Cattle are numerous, particularly in Nicaragua and Honduras.

The wooded coasts of the Pacific are much infested with dangerous reptiles. Birds of brilliant plumage are plentiful in the several States of Central America, and minerals are generally abundant.

Inhabitants, etc.—About one-fourth of the inhabitants are Whites, one-half Indians, and the rest mixed races. Agriculture forms the leading pursuit, but it is rudely conducted.

Cities.—New Guatemala, the capital of the Republic of Guatemala, the largest of the States of Central America, is situated on a high plain about 45 miles distant from the coast of the Pacific. The houses are built only one story in height, on account of earthquakes.

Comayagua, the capital of the State of Honduras, is situated about 180 miles east of the city of Guatemala.

Leon, the capital city of the Republic of Nicaragua, is situated in a fertile plain about midway between the waters of Lake Managua and the Pacific Ocean.

San Jose, the capital of the Republic of Costa Rica, lies about midway between its opposite coasts.

San Salvador, the capital of the Republic of San Salvador, is situated in a valley in the northern part. It was almost entirely destroyed by an earthquake in 1854.

THE MOSQUITO TERRITORY extends along the coast of Central America, from Cape Honduras to the River San Juan. It is inhabited by a race of Indians, who have always succeeded in maintaining their independence of Spanish power. They regard their country as an independent state, under the protection of the British Government.

THE WEST INDIA ISLANDS.

LESSON LXXII.

MAP STUDIES.—Systematically Arranged.

Describe the following Islands, viz.:—The Bahamas,—Cuba, Jamaica, Hayti or San Domingo, Porto Rico,—Virgin Isles, Anguilla, St. Martin, St. Bartholomew, Saba, St. Eustatius, St. Kitts, Barbuda, Antigua, Nevis, Montserrat, Guadeloupe, Desirade, Marie Galante, Dominica, Martinique, St. Lucia, St. Vincent, Barbadoes, Grenadines, Grenada, Tobago, Trinidad,—and the Lesser Antilles.

State the situation of the following Capital Cities, viz.:—Nassau, —Havana, Spanish Town, Port-au-Prince, St. Domingo, St. John's, —Christianstadt, Basseterre, Plymouth, Basseterre, Roseau, Carenage, Kingstown, Bridgetown, St. George, Scarborough, and Port Spain.

State the situation of the following Cities, viz.:—Bahia Honda, Matanzas, San Juan, Nuevitas, Baracoa, Santiago de Cuba, Manzanillo, Trinidad, Cienfuegos, Batabano, Guines, Espiritu Santo, Puerto Principe,—Falmouth, Kingston, Port Royal,—Cape Haytien, Aux Cayes, Jeremie, Gonaives,—Port Platte, Savana la Mar, Neiva,—Aguadilla, Guayama, Ponce and St. Pierre.

Describe the following Capes, viz.:—Icacos, Point Maternillo, Point Canada, Point Mulas, Point Maysi, Cruz, Point Gorda, and St. Antonio,—Point Morant, Point Portland, and Point Negril,—Isabelle, Engano, False, Tiburon, Dame Maria, St. Nicholas and Mole,—Mala Pasque and Roxo.

Describe the following Mountains, viz.:—Cordillera de Cuba,—Blue,—Cibao,—and Porto Rico.

Describe the following Gulfs and Bays, viz.:—Havana, Buena Esperanza, Jagua, Broa, —Annotta, Black,—Manzanilla, Scotch, Samana, Ocoa, and Gonaives.

Describe the following Channels and Passages, viz.:—North-West Providence, North-East Providence, Ship, Crooked Island, Caicos,—Old Bahama, Windward, and Mona.

Describe the following Rivers, viz.:—Canto,—Yaque, Yuma, and Artibonite.

LESSON LXXIII.

THE WEST INDIA ISLANDS.

Total area in square miles, 90,000. Total population, 8,590,000.

Geographical Position, etc.—The West Indies consist of numerous clusters of islands, extending in a semi-circular form between North and South America, and constituting a sort of natural barrier to the Gulf of Mexico and the Caribbean Sea.

How Divided.—They are divided into the Bahama Isles, Greater Antilles, Caribbean Isles, and the Lesser Antilles. By some geographers, the Caribbean Isles are called the Lesser Antilles.

To whom Subject.—With the exception of Hayti, and the islands of Margarita, Blanquilla, Tortuga, Orchilla, and Les Roques, the West India Islands are all subject to different European powers.

The European nations that have possessions here, are the British, Swedish, Danish, Dutch, French, and Spanish.

THE BRITISH ANTILLES.

Total area in square miles, 15,000. Total population, 800,000.

Geographical Position.—The British West India Islands comprise the entire group of the Bahama Isles, and several fine islands, situated among the several groups, which constitute the Greater Antilles, and the Caribbean Isles. The following is a list of the principal islands, viz.:—

	Sq. miles.	Population.
1. Bahamas,	4,500	27,000
2. Jamaica,	5,000	380,000
3. Anegada,	13	200
4. Virgin Gorda,	30	8,000
5. Tortola,	35	7,000
6. Anguilla,	29	3,000
7. Barbuda,	72	500
8. St. Kitts,	68	24,000
9. Nevis,	38	10,000
10. Antigua,	107	36,000
11. Montserrat,	47	8,000
12. Dominica,	280	23,000
13. St. Lucia,	275	21,000
14. St. Vincent,	131	27,000
15. Barbadoes,	164	122,000
16. Grenada (including the Grenadines),	139	29,000
17. Tobago,	120	13,000
18. Trinidad,	2,000	60,000

THE BAHAMA ISLES.

Geographical Position, etc.—This group lies north-east of Cuba, and south-east of the peninsula of Florida. They are supposed to number about 500; but many of them are mere coral rocks and are uninhabitable. The chief islands lie on the flats, called the Bahama Banks.

Surface.—The surface of the islands is generally low and level.

Soil, etc.—The soil is light and sandy. The more northern isles, during the winter months, are rendered cool and agreeable by the north-west breezes.

The chief article cultivated is cotton. Guinea and Indian corn, vegetables, and most of the fruits of tropical regions grow on some of the islands. Turk's Island is noted for its salt ponds. The shores and creeks of many of the islands abound in turtles and a great variety of fish. Cattle and sheep thrive in most of the islands.

Inhabitants.—The inhabitants consist chiefly of Creoles and Negroes. The latter are employed as laborers, and the former are for the most part wreckers and fishermen.

Exports.—These are cotton, dye-woods, mahogany, turtles, fruits, and coffee.

Nassau, the capital and seat of government, is situated on the Island of New Providence.

A Steamer receiving Coal at Kingston.

THE ISLAND OF JAMAICA.

Geographical Position.—This island lies in the Caribbean Sea, about 90 miles south-west of Hayti.

Surface.—The Blue Mountains traverse the island from east to west. On the south side, the shores are abrupt, while on the north, the land is undulating. It is well watered, and the coasts contain numerous excellent harbors.

Soil, etc.—In the valleys and level tracts the soil is generally fertile. The climate is hot. Sugar, rum, molasses, indigo, coffee, arrow-root, and various tropical fruits, are among the productions. Monkeys, lizards, and alligators, are found on this island.

Inhabitants.—By far the greater part of the inhabitants are blacks.

Manufactures and Exports.—The chief articles manufactured are sugar and rum, which, together with molasses, coffee, cotton, and fruits, form the leading exports.

Spanish Town, the capital, is situated on the west bank of the Cobre, about 10 miles from Kingston.

Kingston, the chief commercial city of Jamaica, is situated on the north side of the harbor of Kingston. A railroad connects this place with the capital. Steamers plying between Aspinwall and New York frequently stop at Kingston to get a supply of coal, etc. Besides this, a regular communication is kept up between this port and England; also between it and several other of the West India ports.

VIRGIN ISLES.—These consist of a group of small islands lying east of Porto Rico. Some of the islands belonging to this group are colonial possessions of Great Britain. The principal of these are Anegada, Virgin Gorda, and Tortola.

LESSON LXXIV.

THE BRITISH ANTILLES.—(*Continued.*)

ANGUILLA.—This island, the northernmost of the Caribbean Isles, is low, flat, and irregularly shaped.

The soil is good, and the climate healthy. Cotton, tobacco, sugar, salt, and cattle, are the chief products. The island is a dependency of the Island of St. Kitts.

BARBUDA.—This island lies south-east of Anguilla, and north-east of St. Kitts. Nearly the whole surface of the island is covered with a thick, luxuriant vegetation. The population amounts to about 500 Negroes.

The island is held under a long lease from the Crown of England by the Codrington family. Corn, cotton, and tobacco, are the chief products. Turtle and fish abound on the coasts.

ST. KITTS, or ST. CHRISTOPHER.—This island lies south-west of Barbuda. It is traversed through the centre by a mountain range, from which the land gradually slopes to the sea. The soil is fertile and highly cultivated. Among the chief products are sugar, cotton, indigo, molasses, oranges, shaddocks, and other fruits.

Basseterre, the capital, is situated on the west coast.

NEVIS.—This is a small island lying south-east of St. Kitts. The staple product is sugar. Charlestown, the capital, is situated on the south-west part of the island.

ANTIGUA.—This island lies about 40 miles north of Guadeloupe. The inhabitants are mostly blacks, and the chief exports of the island are sugar, rum, molasses, coffee, and cotton.

St. John, the capital, in the north-west part of the island, is situated partly on a high rock, from whose summit, when the sky is clear, Guadeloupe, Montserrat, Nevis, and St. Kitts, may be seen by the naked eye.

MONTSERRAT.—This island lies about equi-distant from Nevis and Guadeloupe.

It produces some of the best coffee and sugar in the West Indies,

and these with arrow-root and tamarinds form the chief articles of export. PLYMOUTH, the capital, is situated on the south-west coast.

DOMINICA.—This island lies between the islands of Guadeloupe and Martinique. It is of volcanic origin, with rugged mountains and fertile intervening valleys, which are watered by numerous small streams. The climate is unhealthy. Hogs, poultry, bees, and game, are very plentiful. ROSEAU, the capital, situated on the west coast, has an excellent harbor.

ST. LUCIA.—This island lies about mid-way between the islands of Martinique and St. Vincent. Sugar is the chief article cultivated.

CARENAGE, or Port Castries, is the capital town of the island.

ST. VINCENT.—This island lies about 20 miles south of St. Lucia. About two-fifths of its surface is under cultivation for sugar.

KINGSTOWN, the capital, is situated on the south coast.

BARBADOES.—This island lies about 90 miles east of St. Vincent, and is the oldest colony of Great Britain. The Governor and Commander-in-chief of this island is also Governor-general of the islands of St. Lucia, St. Vincent, Grenada, Tobago, and Trinidad. Among the productions that form articles of export, are sugar, molasses, tamarinds, arrow-root, aloes, and ginger.

BRIDGETOWN, the capital, on the west coast, is well built and surrounded by fine plantations.

GRENADA.—This island lies south of the cluster of islands called the Grenadines.

A chain of mountains traverses the island from north to south, on the top of which are several small lakes.

The soil is fertile; the climate hot and unhealthy. The productions are chiefly sugar, cocoa, rum and molasses.

ST. GEORGE, the capital, situated on the west coast, is an important seaport. It has been selected by the Royal Mail Packet Steam Company, as a coal depot.

The GRENADINES, a cluster of about 20 small islands, dependent on Grenada, are situated between that island and St. Vincent.

TOBAGO.—This island lies south-east of Grenada. SCARBOROUGH, the capital, is situated on the south coast.

TRINIDAD lies near the north coast of South America. Almost all the elevated parts of this island are covered with dense forests. The exports are cocoa, coffee, cotton, sugar, and hides. PORT SPAIN, on the west coast, is the capital.

LESSON LXXV.

THE DANISH ANTILLES.

Total area in square miles, 185. Total population, 41,000.

THE DANISH ANTILLES belong to the Virgin Group, and consist of the following islands, viz. :—

	Area in sq. miles.	Population.
St. Thomas,	43	12,800
St. John,	42	2,600
Santa Cruz,	100	25,600

ST. THOMAS is a small island lying east of Porto Rico. Sugar and cotton are the chief exports. St. Thomas, the capital of the island, is a free port, and the chief station of the steam-packets between Southampton, in England, and the West Indies.

ST. JOHN is a small island to the east of St. Thomas.

SANTA CRUZ, the largest and most southerly of the Danish Isles, though inferior to St. Thomas in commerce, is of greater importance in extent and fertility.

The government of the island is under a Governor General, whose jurisdiction extends to the other Danish Colonies of the group. The island formerly belonged to Great Britain, consequently the inhabitants are essentially English in customs and in language.

ST. BARTHOLOMEW.—This island, a colonial possession of Sweden, contains an area of about 35 square miles, and 18,000 inhabitants. It is the only island in the West Indies that belongs to the Swedes.

THE FRENCH ANTILLES.

Total area in square miles, 1,026. Total population, 250,500.

THE FRENCH ANTILLES form a part of the Caribbean Group, and consist of the following islands, viz. :—

	Area in sq. miles.	Population.
St. Martin (north part),	30 (whole island).	4,000
Guadeloupe,	534	112,000
La Desirade,	17	1,500
Marie Galante,	60	14,000
Les Saintes,	5	1,000
Martinique,	380	118,000

ST. MARTIN lies between the islands of Anguilla and St. Bartholomew. The north part of the island belongs to France, and the south to Holland.

About one-third of the French part of the island is under cultivation. In the south, or Dutch portion, there are some lagoons, from which much salt is obtained. The chief products are sugar, rum, salt and cotton.

GUADELOUPE.—This island lies between the islands of Antigua and Dominica, and is the largest and most valuable of the Caribbean Isles. It should be regarded as consisting rather of two islands than one, for it is divided into two parts by La Rivière Salée.

This river, or channel is about 50 yards in breadth, and communicates with the sea by a large bay at each end; that on the north is called Grand Cul-de-Sac, and that on the south Petit Cul-de-Sac.

The eastern section of this double island is called Grand Terre, and the western, Basse Terre, or Guadeloupe Proper.

The chief productions are sugar, coffee, cocoa, cloves, olive oil, rum, ginger, logwood and tobacco.

Basse Terre, the seat of government of Guadeloupe Proper, is situated on the south-west coast, at the mouth of the Rivière-aux-Herbes. Point a Pitre, the capital of Grand Terre, is situated on the Petit Cul-de-Sac.

The north part of St. Martin, and the islands La Desirade, Marie Galante, and Les Saintes, are dependencies of Guadeloupe.

MARTINIQUE lies south of Dominica. It is mountainous, and about one-fourth of its surface is covered with dense forests. The chief products are sugar, coffee and cocoa.

The capital of the colony is Fort Royal, but St. Pierre is the most populous and important town on the island.

THE DUTCH ANTILLES.

Total area in sq. miles, 450. Total population, 27,000.

The Dutch Colonies comprise a few islands of the Caribbean, and three of the group called the Lesser Antilles. They are as follows, viz.:—

	Area in sq. miles.	Population.
St. Martin (south part),	30	6,000
Saba,	15	1,500
St. Eustatius,	24	2,000
Buen Ayre,	80	2,000
Curaçoa,	300	15,000

ST. EUSTATIUS lies south of St. Martin. The coasts are generally steep, and the island is subject to frequent hurricanes and earthquakes. Pigs, goats and poultry are extensively reared for export as well as for local use.

The Island of Saba is a dependency of St. Eustatius.

BUEN AYRE lies off the north coast of Venezuela. It abounds in excellent timber, and has extensive salt and lime works.

CURAÇOA is situated about 30 miles to the westward of Buen Ayre. This island owes its importance chiefly to its commercial facilities. Williamstadt, the capital, situated on the south coast, is the centre of commerce of the Dutch West India Colonies.

LESSON LXXVI.

THE SPANISH ANTILLES.

The Spanish Colonial Possessions in the West Indies comprise Cuba, Porto Rico, Cuelebra and Bieque.

THE ISLAND OF CUBA.

Area in sq. miles, 42,380. Population, 1,207,000.

Geographical Position.—Cuba, the largest of the West India Isles, lies between the waters of the Atlantic Ocean and the Caribbean Sea, at the entrance of the Gulf of Mexico.

Surface.—The south-east part of the island is intersected by a mountain range, which extends along the greater part of the entire length of the island. The northern portion is generally level, with rich valleys and plains.

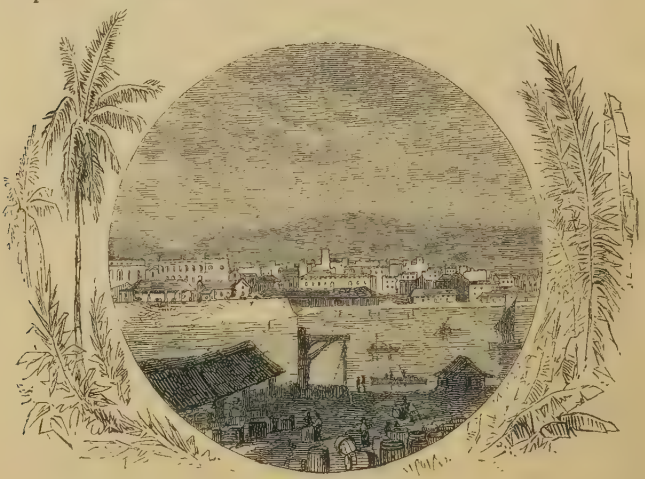
Owing to the shape of Cuba, and the direction of its mountains, there is but little space left for rivers. The mountain torrents, which flow into the sea during the rainy season, dry up when the rains cease; thus causing in some parts severe droughts.

Soil, etc.—The soil is fertile, and the climate warm, but generally healthy. The greatest quantity of rain falls during May, June and July, which are the hottest months. Snow never falls.

Tobacco, cotton, sugar, coffee, and various kinds of fruits, are produced in abundance. Many varieties of hard-wood trees, such as mahogany, cedar, ebony, &c., are to be met with in the mountain districts. Amphibious animals, such as are usually found in tropical climes, and birds of beautiful plumage, are numerous, while the coasts literally swarm with fish of various kinds.

Inhabitants, etc.—The inhabitants are chiefly Creole whites, blacks and mulattoes (both slaves and free), and some Spaniards, and other foreigners. The island is under the government of a Captain General, appointed by the Spanish crown.

Traveling Facilities.—Some railroads have been constructed, by means of which Havana is connected with the chief agricultural and commercial districts. Steam vessels also ply between Havana and other parts of the coast.



Matanzas, Cuba.

Manufactures and Exports.—The manufactures consist chiefly of coarse woolens, straw-hats, cigars, &c. The chief articles exported are sugar, coffee, molasses, spirits, tobacco, cigars, wax, honey, copper-ore, hard woods, &c.

Cities.—HAVANA, the capital of Cuba, and an important commercial city and port, is situated on the west side of a magnificent harbor in the north part of the island. The entrance to the harbor is defended by two castles, Moro and Punto.

The streets of the city are narrow and badly paved. The principal edifices are the Cathedral, containing the tomb of Columbus; the Palace of the Governor, the Arsenal, the General Post-office, and a number of churches, convents, charitable, and other institutions.

MATANZAS, an important seaport, is situated on the north coast of Cuba, about 60 miles east of Havana.

THE ISLAND OF PORTO RICO.

Area in sq. miles, 3,740. Population, 380,000.

Geographical Position.—This island lies east of Hayti, from which it is separated by the Mona Passage.

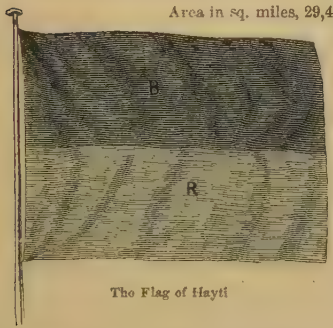
Surface.—It is beautifully diversified with woods, hills and valleys, and well watered by small streams from the mountains, which traverse the centre of the island from east to west.

Soil, etc.—The soil is rich and fertile, but only about one-fifteenth part is under cultivation. The climate is unusally fine. Sugar, coffee, maize and rice are the staple products.

St. John's, or San Juan de Porto Rico, the capital, and chief seaport, is situated on a small island off the north coast.

THE ISLAND OF HAYTI, OR SAN DOMINGO.

Area in sq. miles, 29,400. Population, 700,000.



The Flag of Hayti

Geographical Position.—This large island lies between the two Spanish isles of Cuba and Porto Rico.

Surface.—The centre of the island is traversed by mountain ranges. The east shore is swampy, but the other shores are bold, and afford good harbors. The rivers are numerous and rapid.

Soil, etc.—The soil is fertile, and the climate hot and unhealthy to foreigners. Among the leading products of this island are coffee, tobacco, cotton, cocoa, sugar, bees'-wax, cochineal and ginger. Mahogany, satinwood, logwood, and other valuable trees, are here abundant, and form important articles of export.

Inhabitants, etc.—Hayti formerly belonged to France and Spain; the former holding the western, or Haytien part of the island, and the latter the eastern, or Dominican. It is now divided into two independent states and governed by free blacks.

The government of the Haytien part is despotic, while the Spanish portion is republican.

Port au Prince, situated on the Bay of Gonaives, is the capital of the Empire of Hayti, and the principal seat of its foreign trade.

San Domingo, located on the south coast, is the capital of the Dominican Republic.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE COUNTRIES OF NORTH AMERICA.

(Continued from page 184.)

LESSON LXXVII.

1. What extensive republic lies south-west of the United States? What range of mountains in Mexico? What river separates Mexico from Texas? What peninsula in the western part of Mexico? What channel connects the Gulf of Mexico with the Caribbean Sea?

2. Where is the Bay of Honduras? Is the Bay of Campeche east of Yucatan? Where is Cape Catoche? What lakes in Mexico? What in Central America? How is Central America divided? What is Balize? What is the climate of Mexico? Owing to the inequalities of the surface and the varieties of climate, what productions may be found?

3. What minerals are abundant? For what productions is Balize noted? Is Mexico noted for manufactures? How is the surface of Yucatan? What political division is Yucatan? What natural divison? Describe the city of Mexico. What are the leading exports of Mexico? Of Yucatan?

4. What city is the capital of the Republic of Guatemala? Of what state is Comayagua the capital? What city is the capital of the Republic of Costa Rica? Of the Republic of San Salvador? Of the Republic of Nicaragua? Where is the Gulf of Tehuantepec? What celebrated volcanoes in Mexico? Where is Cape St. Lucas?

5. What seaports in Yucatan? What noted volcanoes in Central America? In what state of Central America is the volcano of Cartago? Where is the Gulf of Fonseca? What river is the outlet of Lake Nicaragua? Where is Matamoras? San Luis Potosi? Valladolid? Acapulco? Mazatlan? Tampico? Guadalaxara?

ON THE WEST INDIA ISLANDS.

6. Where are the West India Islands? How are they divided? What are the Caribbean Isles sometimes called? To what nations do the greater part of the West Indies belong? Which are the isles belonging to the British? Of these, which one is the largest? How is that island situated? What important commercial city on that island?

7. Where are the Bahamas? What is their supposed number? For what is Turk's Island noted? Are all the Bahamas inhabited? In what do the shores and creeks of some of the islands abound? By whom are these isles inhabited? What are their leading pursuits? What town is the seat of government? Where is it?

8. What channel lies between the Bahamas and Cuba? What passage between the Caicos Isles and Mariguana? Between Crooked and Long Islands? Between St. Salvador and Eleuthera? For what is St. Salvador noted? What is the chief article cultivated in the Bahama Isles? What are the leading exports? Which is the most southerly of the Bahamas? I.

9. Through what channel would you pass from Inagua to Jamaica? How far distant is this isle from Hayti? What mountains traverse it? How is the coast? By whom is Jamaica chiefly inhabited? What articles are extensively manufactured? Describe Kingston.

10. Where are the Virgin Isles? What three of these isles belong to Great Britain? Describe the Island of Anguilla. What island to the south-east, belonging to the same nation? What family hold this island under a lease? Where is St. Kitts? In what direction from St. Kitts is Nevis?

11. What island lies about 40 miles north of Guadeloupe? A . . . . . a. Describe the capital of that island. What island belonging to the British, between Nevis and Guadaloupe? What are the chief productions of Montserrat? What town is the capital? What the capital of St. Kitts? Of Antigua? Of Nevis?

LESSON LXXVIII.

REVIEW QUESTIONS CONTINUED.

1. What large island belonging to the British, lies south of Guadeloupe? Describe that island. Where is St. Lucia? St. Vincent? What island lies about 90 miles to the east of St. Vincent? Describe Barbadoes. What town is the capital of St. Lucia? Of St. Vincent?

2. Where is Grenada Island? What cluster of isles to the north, is a dependency of Grenada? For what is the capital of Grenada noted? What large island lies off the north-east coast of South America? To what nation does it belong? What town is the capital?

3. What island lies north-east of Trinidad? To whom does it belong? Which are the islands included in the Danish Antilles? Describe St. Thomas. Which is the largest and most southerly of the Danish Isles? Describe Santa Cruz? To what nation does the Island of St. Bartholomew belong? Do the Swedes possess any other island in the West Indies?

4. Which are the isles included in the French Antilles? Which one is the largest? Between what British isles is Guadeloupe situated? Where is the Island of St. Martin? Do the French have possession of the entire island? To whom belongs the southern part of the island?

5. Describe the Island of Guadeloupe. What town is the seat of government? What islands are dependencies of Guadeloupe? Where is Martinique? Which is its most important town? Is that town the capital? Which are the islands belonging to the Dutch? Where is St. Eustatius? To what is the

island subject? What island is noted for its salt and lime works? B. A. To what does the island of Curaçoa owe its importance?

6. What islands of the West Indies belong to Spain? Which one of these is the largest? Describe the general character of the surface. What are its chief productions? In what do the manufactures chiefly consist? What city is the capital?

7. How is the harbor of Havana defended? By whom is Cuba inhabited? What form the leading articles of export from Cuba? What passage separates San Domingo from Porto Rico? How much of Porto Rico is under cultivation? What is the climate? What the soil?

8. How is the capital situated? What large island lies between Cuba and Porto Rico? Who inhabit this island? Does this island belong to any European power? What city is the capital of the Haytien Empire? What the capital of the Republic of Dominica? What rivers in Hayti? Where is the Bay of Gonaives? Scotch Bay?

9. On what island are the following towns situated, viz.:—Matanzas? Spanish Town? Jeremie? Ponce? Manzanillo? Falmouth? Aux Cayes? Aguadilla? Gonaives? Port Royal? Principe? Santiago de Cuba? Port Platte? Nuevitas? Trinidad? Batabano?

SOUTH AMERICA.

LESSON LXXIX.

MAP STUDIES.—Systematically Arranged.

Mention the boundaries of the following Countries, viz.:—New Granada, Venezuela, British Guiana, Dutch Guiana, French Guiana, Brazil, Uruguay, La Plata, Patagonia, Chili, Bolivia, Peru, Ecuador, and Paraguay.

State the situation of the following Cities and Towns, viz.:—Chagres, Aspinwall, Panama, Carthagena, Mompox, Santa Martha, Socorro, Pasto, Popayan, Buenaventura, Bogota,—Maracaybo, Truxillo, Valencia, La Guayra, Caraccas, Barcelona, Cumana, Guayana, Esmeralda, Atures, Angostura,—Georgetown, New Amsterdam,—Paramaribo,—Cayenne,—Egas, Coary, Moura, Barra, Borba, Obidos, Santarem, Macapa, Souzel, Para, Barras, Maranham, Parnaiba, Seara, Oeiras, Natal, Pernambuco, Alagoas, Pambo, Sergipe, Bahia, Urubu, Porto Seguro, Porto Alegre, Diamantino, Espiritu Santo, Villa Rica, Rio Janeiro, San Paulo, Laguna, Porto Alegre, Cuyaba, Villa Bella, Balsamo, Porto Imperial, and Villa Boa.

PART II.

State the situation of the following Cities and Towns, viz.:—Maldonado, MONTE VIDEO, Colonia,—Salta, Tucuman, Corrientes, Santa Fe, BUENOS AYRES, Mendoza, Rioja, Catamarca, Santiago, Cordova,—Port Copiapo, Coquimbo, Quillota, Valparaiso, Talcahuana, Concepcion, Valdivia, Curico, SANTIAGO,—Santa Cruz, Tarija, Cobija, Potosi, Cochabamba, La Paz, CHUQUISACA,—Caxamarca, Laguna, Sarayacu, Cuzco, Puno, Arica, Arequipa, Pisco, Callao, LIMA, Pasco, Caxatambo, Truxillo, Huanta,—QUITO, Omaguas, Cuenca, Guayaquil, Riobamba,—Itapua, ASSUMPTION, and Concepcion.

LESSON LXXX.

MAP STUDIES.—SYSTEMATICALLY ARRANGED.

Describe the following Islands, viz.:—Les Roques, Orchilla, Tortuga, Blanquilla, Margarita, Trinidad, Joannes, Maranham, Falkland Isles, Georgia, Fuegian Isles, Adelaide, Hanover, Wellington, Chiloe, Juan Fernandez, and St. Felix.

Describe the following Peninsulas, viz.:—South America,—Patagonia,—St. Joseph, and Tres Montes.

Describe the following Capes, viz.:—Gallinas, Barima, Orange, North, St. Roque, Frio, St. Maria, San Antonia, Corrientes, Blanco (east), De la Virgines, Horn, Montes, Mexillones, Aguja, Blanco, and Francisco.

Describe the following Mountain Ranges, viz.:—Pacaraima, Acaray, Brazilian, Andes, Geral, and Cordillera Grande.

Describe the following Peaks.—Cayambe, Chimborazo, Chuquibamba, Sorato, Illimani:—Volcanoes,—Pichincha, Antisana, Cotopaxi. Arequiba, and Aconcagua.

LESSON LXXXI.

MAP STUDIES.—SYSTEMATICALLY ARRANGED.

Describe the following Gulfs and Bays, viz.:—Darien, Venezuela, Paria, All Saints, Rio Janeiro, Paranagua, Blanco, St. Matthias, St. George's, Penas, Corcobado, Concepcion, Morena, Guayaquil, Choco, and Panama.

Describe the following Straits, viz.:—Magalhaens and Chacoa.

Describe the following Lakes, viz.:—Maracaybo, Patos, Mirim, Titicaca, Aullagas, and Porongos.

PART II.

Describe the following Rivers.—Atrato, Magdalena, Cauca,—Orinoco, Cassiquiare, Guaviare, Meta, Apure, Caroni,—Essequibo, Surinam, Maroni, Oyapok, Amazon, Napo, Putumayo, Yapura, Negro, Branco, Huallaga, Ucayale, Apurimac, Urubamba, Javary, Jutay, Jurua, Purus, Madeira, Beni, Mamore, Guapore, Tapajos, Xingu,—Para, Tocantins, Araguay:—

Parnaiba, Potenji, St. Francisco, Doce, Paraiba, Rio de la Plata, Uruguay, Parana, Parnahyba, Rio Grande, Paraguay, Pilcomayo, Vermejo, Tarija, Jujuy, Salado, Quarto,—Salado, Colorado, Rio Negro, Camarones,—Dulce, Tala, and Medinas.

LESSON LXXXII.

SOUTH AMERICA.

Area in square miles, 6,500,000. Population, 17,000,000.

Geographical Position, etc.—South America, a vast peninsula of a triangular form, occupies the southern half of the American or Western Continent. Its length from north to south is about 4,000 miles, and from east to west, its greatest breadth is about one-fourth less.

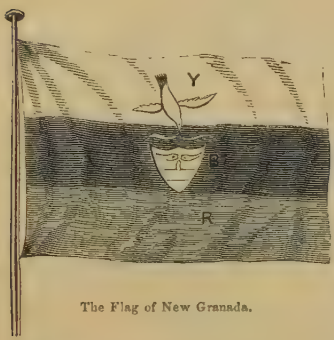
Physical Characteristics.—Three great mountain systems diversify the surface, as follows, viz.:—the Andes, which stretch along the western coast, from southern Patagonia to the Isthmus of Panama; the Parima, or Pacaraima Mountains, which extend along the southern border of Venezuela, a distance of about 600 miles, separating the plains of the Orinoco from those of the Rio Negro; and the Brazilian Mountains, consisting of two great ranges running parallel to the coast of Brazil, with several diverging chains.

Between the Andes on the one side, and the mountain systems of Southern Venezuela and Brazil upon the other, extends a vast plain. This great plain may be divided into three parts,—the Region of the Llanos, or Savannahs (level grassy tracts), which occupy a great part of the basin of the Orinoco; the Region of the Selvas, or forest plains, which spreads over the lower portion of the basin of the Amazon, as far as the annual inundations of that river extend; and the Region of the Pampas of La Plata.

Inhabitants, History, etc.—The greater part of the inhabitants are descendants of the native Indians; some of these are semi-civilized and others are still in a savage state. The ruling people are the descend-

ants of Europeans, mostly Spaniards and Portuguese. Nearly the whole of South America, for about three centuries antecedent to the present, was under the control of European Governments.

Spain took possession of a great part of the northern, and almost all the western coasts, besides large tracts in the interior, and Portugal of the present Empire of Brazil. The Spanish portions have become independent. Brazil is under the dominion of a legitimate sovereign, and Guiana is a colonial possession established by Great Britain, France, and Holland.



The Flag of New Granada.

THE REPUBLIC OF NEW GRANADA.

Area in sq. miles, 522,000. Pop., 2,243,000.

Geographical Position. — This country occupies the north-west part of South America, between the Pacific Ocean and the upper course of the Orinoco.

It extends westward to the boundary of Costa Rica in Central America, including the Isthmus of Darien, or Panama.

Surface.—Several chains of the Andes based upon elevated table-lands overspread a large portion of the country. These traverse the western part from north to south. East of the mountains are extensive llanos, or plains.

Soil, etc.—The soil is exceedingly fertile, and the climate is hot and unhealthy, except on the elevated table-land. In the uplands wheat and other grains are produced, and in the river basins, and along the coasts, coffee, cotton, cocoa, indigo, sugar, tobacco, together with various medicinal herbs, and tropical fruits.

The *llanos* afford pasturage for immense herds of cattle and horses, and the forests are rich in dye and cabinet woods. Minerals are abundant, particularly gold, silver, platina, and rock salt. About 50 miles north of Bogota, are the famous emerald mines, which supply a great part of the world with this precious stone.

Natural Curiosities.—North-east of, and near the city of Bogota, is the celebrated Cataract of Tequendama, in the River Bogota—a branch of the Magdalena. The height of this cataract is about 570 feet, and

the width of the stream 36 feet. The Natural Bridges of Icononzo are also much celebrated. The largest consists of a natural arch of stone 50 feet long, and 40 wide, stretching over a chasm (through which rolls a swift torrent) at an elevation of 318 feet above the surface of the water.

Inhabitants, etc.—The population is composed of Whites, Indians, Negroes and mixed races. Agriculture is in a rude state. The farmers are chiefly occupied in raising live-stock.

Panama.

Traveling Facilities.—In the mountainous districts there are no roads, and individuals are carried on a kind of basket-chair on the backs of porters. In other parts, mules form the chief means of conveyance. The method of crossing streams is by ropes stretched from one side to the other with sling and basket, in which the traveler seats himself, and is pulled safely over.

Steamboats now ply on the Magdalena, which will much facilitate the development of the country; and a railroad, recently built, spans the Isthmus of Panama.

Manufactures and Exports.—Manufactures are of the simplest kinds. Commerce receives considerable attention. The chief articles of export are hides, specie and bullion.

Cities.—Bogota, the capital city, is situated in a fertile plain on the left bank of the Bogota, nearly 9,000 feet above the level of the sea. All the houses are low, in consequence of the apprehension of earth-

quakes; and are built of sun-dried brick, whitewashed and covered with tiles. Churches and convents cover nearly half the city.

Carthagena, situated on Carthagena Bay, is the chief seaport and naval arsenal of the republic. It is connected with the Magdalena by a canal.

Popayan lies in a fertile plain near the Cauca River. The inhabitants are chiefly mulattoes and negroes.

LESSON LXXXIII.

THE REPUBLIC OF VENEZUELA.

Area in sq. miles, 427,000. Population, 1,824,000.

Geographical Position.—Venezuela lies between New Grenada on the west and Guiana on the east; and extends from the Brazilian empire to the waters of the Caribbean Sea.

Surface.—The greater part of the surface is a vast plain. There are some mountain ridges in the south and west.

Soil, Climate, etc.—The soil is very productive. The climate is warm, and as there is little variety of surface, a high temperature generally prevails. The year is divided into two seasons—the wet and the dry. All the tropical products grow here luxuriantly. Animals and insects are numerous, and pearl oysters are found along the coast.

Inhabitants, etc.—The population may be divided into three classes —Whites, Indians and mixed races. The whites are chiefly engaged in agricultural and commercial pursuits.

Traveling Facilities.—There are no good roads and bridges. Traveling and inland commerce are carried on by means of mules and lamas.

Manufactures and Exports.—Manufactures are few, and very simple; and the exports consist of a great variety of tropical plants, together with cattle, and the several articles of trade which they yield.

Cities.—Caraccas, the capital, lies in a valley, about 12 miles distant from its port, La Guayra. This city is noted as having been the birth-place of General Bolivar.

Maracaybo, on the left bank of Lake Maracaybo, carries on an active trade with the interior. Many of the inhabitants are engaged in navigating the lake.

La Guayra and Cumana are seaports on the Caribbean Sea.

Angostura is the chief place of trade in the valley of the Orinoco.

THE COLONIES OF GUIANA.

Area in sq. miles, 141,000. Population, 214,000.

Geographical Position, etc.—This portion of Northern South America is situated directly east of Venezuela, along the Atlantic coast, between the mouth of the Orinoco and that of the Oyapok. It consists of three colonies belonging to France, Holland, and Great Britain, called respectively, French, Dutch and British Guiana.

Surface.—Along the coast the land is low and flat, so that the country appears, upon approaching it, like a line of trees growing out of the water. It is level for some distance inland, and in the south it is somewhat hilly and mountainous.

Soil, Climate, etc.—The soil is very rich, in consequence of being covered with water during the rainy season. The climate is hot. On the coast there are two winters, or rainy seasons, and two dry seasons, during the year. Vegetation is luxuriant. Dye, and other valuable woods, spices, and fruits and plants peculiar to tropical countries, are plentiful. Insects are numerous. Ant-hillocks have been seen as high as 15 or 20 feet, and nearly 100 feet in circumference.

Inhabitants, etc.—The interior is chiefly inhabited by various Indian tribes. The coast and settled districts are occupied by European settlers, Negroes and mixed races. The leading object of pursuit among the settlers is the cultivation of sugar and coffee-plantations. Most of the negroes are slaves, except in the British and French colonies.

Traveling Facilities.—The chief mode of traveling is by boats on the various rivers which traverse the country. Canals are being constructed in some parts.

Manufactures and Exports.—Manufactures are very few and unimportant. The chief exports are coffee, sugar, rum, molasses, indigo, fruits and spices.

Towns.—GEORGETOWN, the capital of British Guiana, lies on the east bank of the Demerara, about one mile above its mouth. The streets are traversed by canals.

PARAMARIBO, the capital of Dutch Guiana, is located on the west bank of the Surinam, about six miles above its mouth. The streets of the town are ornamented with rows of orange, lemon and tamarind trees.

CAYENNE, the capital of French Guiana, is situated on the Island of Cayenne, which is near the coast of Continental Guiana. It is noted for its trade in Cayenne pepper.

LESSON LXXXIV

The Flag of Brazil.

THE EMPIRE OF BRAZIL.

Area in sq. miles, 3,956,800. Pop., 6,065,000.

Geographical Position, &c.—This vast empire comprehends the eastern, and a great part of the central portion of the South American Peninsula. It possesses a coast line of 3,700 miles in length.

Surface.—The northern part of Brazil consists chiefly of a vast plain, through which flow the Amazon and its tributaries. The shores of the east coast are generally low, but gradually rise to the mountainous region which runs parallel to the coast, from 20 to 150 miles inland.

Minor ranges intersect the other parts of the empire, enclosing tracts, some elevated, and others low-lying plains. Along the watercourses are numerous dense and almost impenetrable forests.

Soil, Climate, etc.—The soil is generally fertile, and vegetation exceedingly luxuriant. The climate may be characterized as mild and agreeable, except in the north. In Brazil, as in all other regions south of the equator, the order of the seasons is the reverse of ours. December, January and February are their hottest months. The forests abound with useful and ornamental woods.

The banana forms the principal part of the food of the Indians, and the flour of the Cassava root is much used by the less wealthy classes. Other tropical fruits and plants are abundant.

The forests swarm with wild animals, and a great variety of birds of the richest plumage; the plains afford pasturage for numerous herds of wild cattle. The diamond mines of Brazil are exceedingly valuable.

Inhabitants, etc.—The inhabitants consist of Whites, chiefly of Portuguese descent; Negroes, mixed races, and several savage tribes of native Indians. The cultivation of the soil, and the labor in the mines, are performed by the negro slaves.

Traveling Facilities.—All goods are transported, either on the backs of mules, or horses, as scarcely any part of the empire is passable for carriages.

Manufactures and Exports.—Manufactures are yet in their infancy.

The exports are principally sugar, coffee and cotton; besides which, are hides, horns, tallow, jerked beef, cabinet and dyewoods, drugs, gold and diamonds.

A Scene in a Brazilian Forest.

Cities.—Rio Janeiro, the capital city, situated on the west side of the bay, or harbor of Rio, is the principal seat of the foreign commerce of the empire.

The houses are generally built of granite, and the streets intersect each other at right angles, save where the beach, or the declivities of the hills forbid.

Fountains, supplied by means of a magnificent aqueduct, which conducts the water from the adjacent mountains, are numerous. The environs of the city are exceedingly picturesque and beautiful.

Para, situated on the right bank of the Para, carries on considerable trade in exporting cocoa, caoutchouc, or India rubber, isinglass, rice and drugs.

Pernambuco, called also Recife, is a commercial city of considerable importance.

Bahia, a large and flourishing commercial city of Brazil, lies on the east side of the Bay of All Saints.

LESSON LXXXV.

THE REPUBLIC OF URUGUAY.

Area in sq. miles, 70,000. Population, 250,000.

Geographical Position.—Uruguay, or Banda Oriental, lies north-east of the estuary of the Rio de la Plata, and extends from the Uruguay River to the waters of the Atlantic Ocean.

Surface.—Along the coast it is level, and almost destitute of trees; in the centre mountainous, and the rest of the territory undulating.

Soil, Climate, etc.—The soil is for the most part good, and the climate, though damp, is temperate and salubrious. Cattle and horses form the wealth of the inhabitants. Only a sufficient amount of agricultural produce is raised for home consumption.

Inhabitants.—The majority of the inhabitants are Indians; some civilized, and others in a savage state.

Traveling Facilities.—These are few, and of a very inferior order.

Manufactures and Exports.—Manufactures are unimportant. The exports are hides, beef, butter, hair and feathers.

Towns.—Monte-video, the capital, has a good port on the left side of the estuary of the La Plata, about 100 miles distant from Buenos Ayres, and is the chief city of the republic.

Maldonado, situated on the same estuary, about 60 miles east of the capital, is a well fortified seaport town.

The Flag of Buenos Ayres, or La Plata.

LA PLATA, or THE ARGENTINE REPUBLIC.

Area in sq. miles, 920,000. Pop., 754,000.

Geographical Position.—La Plata lies south of Bolivia, and north of Patagonia.

Surface.—In the north and west it is mountainous; and the central and southern parts are vast pampas, much resembling the prairies of Western North America.

Soil, Climate, etc.—The soil is generally good, but not a thousandth part of the land is under cultivation. In the mountainous regions, and on the coast, the climate is mild. Very destructive winds, or hurricanes, sometimes sweep over the pampas.

Fruits and plants common to both the temperate and tropical climes are here produced; but cattle, horses, mules, and the articles of traffic obtained from them, are the chief dependence.

Inhabitants, etc.—The population mainly consists of Spaniards, Creoles, native Indians and Negroes.

The *guachos*, or shepherds of the pampas, lead a wandering life, hunting wild cattle. They take them by means of a lasso, which they manage with great dexterity; and woe be to the animal that comes within reach of the lasso, for his career is at an end.

Traveling Facilities.—The roads are generally better than in most parts of South America. The rivers of La Plata afford immense facilities for transportation, etc., to which attention has been turned of late.

Manufactures and Exports.—Manufactures are few, consisting chiefly of coarse woolen stuffs, leather, and turned wares. Hides, horns, horsehair, wool, ostrich feathers and salted meats, are among the leading articles of export.

Cities.—Buenos Ayres, the capital, is situated on the south-west side of the Rio de la Plata (which is here 36 miles wide), about 150 miles from its mouth. The city is built with great regularity, taste and neatness, and carries on an extensive trade with the United States and Great Britain.

Ships drawing 16 feet water cannot approach the city, the harbor being obstructed by sand-banks. They anchor about seven miles distant, and load and unload by means of lighters.

Mendoza, situated on a high plain, at the foot of the Andes, is the entrepôt for the trade between Chili and La Plata.

Salta, located on a small branch of the Salado, is noted for its trade in hides and mules.

PATAGONIA.

Area in square miles, 300,000. Population, 120,000.

Geographical Position.—Patagonia embraces all the southern extremity of South America south of Chili and La Plata.

Surface.—The western part is traversed by the Andes, and the eastern consists of a succession of terraces.

Soil, Climate, etc.—So little is known of the interior, that but little idea can be formed as to the nature of the soil. Along the east coast it is sterile, and on and near the Rio Negro, the soil is adapted to wheat and other grains. The climate is generally cold.

Water-fowl and seals, in great numbers, frequent the rocky shores

Inhabitants.—The country is thinly inhabited by Indian tribes, who are as barbarous as the country is desolate. They lead a nomadic life; consequently, their habitations are small and movable, consisting merely of a framework of stakes covered with the skins of animals.

The Flag of Chili.

LESSON LXXXVI.

THE REPUBLIC OF CHILI.

Area in sq. miles, 84,000. Pop., 1,209,000.

Geographical Position.—Chili is in the western part of South America, and extends from the Desert of Atacama on the north to Patagonia on the south, and from the Andes to the Pacific Ocean.

Surface.—In the north, the land rises in successive terraces from the coast; in the south, the branches of the Andes cross the country, forming numerous valleys, and terminate abruptly at the coast; in the middle part of Chili, the land is generally level.

The sea-coast of Chili, compared with the entire surface, is immense, and affords several good harbors.

Soil, Climate, etc.—The soil of the midland vales is rich; in other parts it is sandy and dry. The climate is temperate and healthy. The four seasons here occur as in the United States, only in reversed order. In some parts of Northern Chili, years pass without rain's falling, but dews are frequent and heavy. Earthquakes often occur, and volcanoes are numerous.

Indian corn, wheat, and other grains, are extensively cultivated. The figs and olives of Chili are said to be of superior flavor, and the grape is cultivated with great success. Minerals are abundant—silver and copper are the most profitable. Large quantities of the latter ore are annually shipped to Swansea, in Wales, and a great amount is sent to the United States.

Inhabitants, etc.—The inhabitants are chiefly Spaniards, Mestizoes and Indians. Agriculture and mining form the leading pursuits.

Traveling Facilities.—These are, as yet, few and imperfect. A rail-

road is in contemplation from Valparaiso to the capital, a distance of about 70 miles. The tracks through the valleys and ravines are passable only by mules.

Manufactures and Exports.—The chief manufactures are earthenware jars, hempen cloths, cordage, soap, tallow, leather and brandy. The leading exports are metals, hides, wheat, jerked beef, wool and hemp. Much grain is sent to California.

Cities.—SANTIAGO, the capital, lies at the foot of the Andes on the river Maypocha. The houses are built low, owing to the apprehension of earthquakes.

VALPARAISO, situated on the coast of the Pacific, is the chief seaport of Chili, and one of the most flourishing seats of trade on the west coast of South America. Coquimbo, on the Coquimbo River, about one mile distant from the Pacific, is noted for its trade in minerals and chinchilla skins.

THE REPUBLIC OF BOLIVIA.

Area in sq. miles, 450,000. Population, 1,700,000.

Geographical Position.—Bolivia lies north of La Plata, between Peru and Brazil. A small portion of its western frontier borders on the Pacific.

Surface.—The western part is traversed by ridges of the Andes, and in the east are extensive plains. The coast district is a sterile desert. The great plateau, on whose surface reposes Lake Titicaca, is over 12,000 feet above the level of the Pacific.

Soil, Climate, etc.—The soil is for the most part fertile, and the climate varies much in different parts of the country, according to the elevation and the distance from the equator.

In the more elevated parts Indian corn, wheat, and other grains are cultivated; and in the lower districts the various tropical fruits and plants are raised to some extent. Cinchona trees, from which Peruvian bark is obtained, are numerous.

Inhabitants.—Nearly three-fourths are either Indians or mixed races. Some of the native Indian tribes are intelligent and industrious, and others are still in a savage state. Agriculture and mining form the chief pursuits.

Traveling Facilities.—Roads are few and poor. Wheeled vehicles are not used. Goods are transported on the backs of mules and other beasts of burden.

Manufactures and Exports.—Manufactures are few. Cotton goods, and cloths of llama and alpaca hair, glass wares, leather, silver and hats of vicuna wool, are made to a limited extent. The leading articles of export are precious metals, wool, hats, and Peruvian bark.

Cities.—Chuquisaca, or Sucre, the capital, lies in a fine valley upon the table-land of the interior, about 9,500 feet above the level of the sea. It has a large and handsome cathedral.

Cochabamba is situated in a rich and well cultivated district, on the south side of a spur of the Andes.

La Paz, located on a small stream, a tributary of the Beni, is the chief city of Bolivia, and carries on an extensive transit trade.

LESSON LXXVII.

THE REPUBLIC OF PERU.

Area in square miles, 520,000. Population, 2,107,000.

Geographical Position.—Peru lies south of Ecuador and west of Brazil and Bolivia.

Surface.—It embraces three distinct regions,—the mountainous, or central region, the narrow plain, between the Andes and the ocean, and the great plains, which extend eastward from the Andes to the interior of Brazil. Volcanoes are numerous.

Soil, Climate, etc.—The soil is fertile in some parts, and the climate varies according to the elevation. In the mountain region it is cold, and here and in the eastern plains, the rains are abundant during six months of the year, while on the coast it is uniformly hot, and no rain ever falls, though dense mists are of frequent occurrence.

Grains and rice flourish in the temperate districts, and the warmer valleys supply abundant crops of tropical plants and fruits. The mountain region abounds in minerals. The coca plant, which supplies the place of the tobacco leaf, is much cultivated both in Peru and Bolivia.

Large quantities of guano, which is extensively used both in Europe and our own country as a manure, has been largely exported from the little group of the Chincha Islands, lying off the coast of Peru, about 150 miles from Lima.

Inhabitants.—These are similar in character to those of the other South American States. The Whites do not equal one-seventh of the entire population. The Indians of Peru are the descendants of races

who had attained considerable civilization prior to the discovery of the New World. Agriculture is the chief employment, and mining receives some attention.

Traveling Facilities.—The internal trade is much impeded for want of good roads.

Manufactures and Exports.—Coarse cotton and woolen cloths, leather cloaks and jewelry are manufactured to some extent.

The exports consist of bullion, chinchilla skins, Peruvian bark, cotton, copper-ore, vicuna, alpaca and sheep's wool, hides and sugar. The exports of guano in 1852, amounted to 220,500 tons, 32,000 of which were sent to our own country, and the rest to Europe.

Cities.—Lima, the capital and largest city, is situated on the small River Rimac, about six miles distant from its port Callao, on the Pacific. Like most of the Spanish cities, Lima has a large square in the centre, where all the streets terminate.

Cuzco, situated on a tributary of the Ucayale, is the chief city in the mountain region, and the second in the country in size and population. Arica is a small seaport both for Peru and Bolivia.

THE REPUBLIC OF ECUADOR.

Area in square miles, 320,000. Population, 620,000.

Geographical Position.—Ecuador lies between New Granada and Peru, and extends from Brazil to the Pacific Ocean.

Surface.—The western part is traversed by the Andes, and the eastern forms part of the great central plain of South America.

Soil, Climate, etc.—The soil is fertile, and the climate on the coast is hot, while in the elevated table-lands it is that of perpetual spring, though this country lies in the centre of the torrid zone. The productions are similar to those of New Granada. Turtles abound in the Amazon, and fish are plentiful on the coast of the Pacific.

Inhabitants.—Indians and Mestizoes form the bulk of the population. Agriculture and mining are the chief employments.

Cities.—Quito, the capital, lies nearly under the line of the equator, on a slope of the Volcano of Pichincha, at an elevation of 9,000 feet above the sea.

Owing to the inequalities of the ground on which this city is built, its streets are irregular and uneven; and so numerous are the crevices of the mountain, that many of the houses are built on arches.

Guayaquil, the chief seaport, lies on the west bank of Guayaquil

River. It is divided into two towns connected by a bridge. The general appearance of the town is pleasing, but its streets are dirty, and the place is infested with insects.

Water is brought to the city from a distance in earthen jars. The harbor is good, and large ships can ascend to the town.

LESSON LXXXVIII.

THE REPUBLIC OF PARAGUAY.

Area in square miles, 84,000. Population, 300,000.

Geographical Position.—Paraguay, an inland peninsula of South America, lies south of Brazil, between the rivers Parana and Paraguay.

Surface.—It is generally level. A mountain chain traverses the centre of the territory, forming a water-shed for several small streams. and causing them to flow in opposite directions.

Soil, Climate, etc.—The soil (particularly those tracts that are inundated during the rainy season, by the swelling of the frontier rivers) is very fertile, and the climate is moist and temperate.

Grain, rice, cotton, tobacco, sugar, and the *yerba mate*, or Paraguay tea, are among the chief products. Various drugs,—such as sarsaparilla, rhubarb, jalap, nux vomica, and Peruvian bark are abundant.

Inhabitants.—A majority of the inhabitants are Indians, partially civilized; the Whites are, however, the ruling people. Agriculture and raising cattle, form the leading pursuits.

Traveling Facilities.—These are chiefly by the River Paraguay.

Manufactures and Exports.—There are no manufactures of note, and among the chief exports are cattle, and the articles of trade they yield, horses and Paraguay tea.

Towns.—Assumption or Asuncion, the capital, lies on the left bank of the Paraguay, and carries on considerable trade, chiefly in tea, hides, and timber.

Concepcion, is a small town on the same river, about 130 miles above Assumption.

ISLANDS OF SOUTH AMERICA.

The islands of Les Roques, Orchilla, Tortuga, Blanquilla, and Margarita, situated in the Caribbean Sea, belong to the Republic of Venezuela.

The Falkland Isles, situated in the South Atlantic Ocean, about 300 miles from South Patagonia, consist of two large and about 200 smaller islands. They belong to Great Britain. Vessels frequenting the South Seas are here supplied with provisions and fresh water. Port William is the capital.

The Fuegian Group embraces the islands lying south of the Strait of Magalhaens. They consist of a broken mass of rocks, hills, and forests, and are inhabited by a race of savages but little superior to the higher order of brutes.

Chiloe is an island belonging to Chili, from which it is separated by the narrow Strait of Chacoa.

Juan Fernandez, two islands in the Pacific, lie opposite to the coast of Chili. The one situated nearer to Chili is noted as having been the residence of Alexander Selkirk; and from his history Daniel Defoe is supposed to have composed his inimitable "Adventures of Robinson Crusoe." These islands belong to the Chilian government.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE COUNTRIES OF SOUTH AMERICA.

LESSON LXXXIX.

1. How is South America bounded? Of the countries of South America, which is the largest? Which the smallest? Which one is divided into three colonies? Which one is inhabited by savages, and has no capital city? Which one is an empire? Which one forms an inland peninsula?

2. Which one lies entirely west of the Andes? Which two border on the Caribbean Sea? Which five on the Atlantic Ocean? Which six on the Pacific Ocean? Of the former, which one has the greatest extent of sea-coast? Of the latter, which has the least extent of sea-coast?

3. What country has a sea-coast both on the Caribbean Sea and the Pacific Ocean? What one both on the Atlantic and the Pacific Ocean? Through what countries does the Amazon flow? Through what the Rio de la Plata and its tributaries?

4. Which are the chief northern branches of the Amazon? The southern? What rivers form the Madeira? Describe the Rio de la Plata.

Remark.—By some geographers this river is described as being formed by the Parana and Uruguay Rivers; by others as formed by the Parana and Paraguay.

5. What republic lies west of British Guiana? What one still further west? In what part of South America is New Granada? What mountains traverse New Granada? What is the character of the surface, east of the mountains? How is the climate of this country? Of what use are its immense plains?

6. For what woods are the forests noted? Is this country noted for its manufactures? By whom is it inhabited? What natural curiosities in New Granada? What city is the capital? How are the houses in this city generally built? Why?

7. What city is the chief sea-port? How is this city connected with the Magdalena? How are the traveling facilities of New Granada? What are the leading exports? What rivers in New Granada flow to the Orinoco? What to the Caribbean Sea?

8. Where is the Bay of Darien? Where is the port of Buenaventura? Panama? Santa Martha? In what direction is Popayan from Buenaventura? Pasto from Popayan? Popayan from Bogota? Bogota from Caraccas? Of what republic is Caraccas the capital?

9. What town is the sea-port for Caraccas? La G. What sea-port town further east? What is the character of the surface of Venezuela? By whom is Venezuela inhabited? What are the leading pursuits of the white population? Describe the climate.

10. What city is noted as having been the birth-place of General Bolivar? By what means are passengers and goods transported to various parts of Venezuela? How are the roads? What large river crosses Venezuela? By what river is the Orinoco connected with the Rio Negro?

REMARK TO THE PUPIL.—The Cassiquiare is remarkable for forming a navigable connection between the two great rivers, the Orinoco and the Amazon. It is about 170 miles in length, including its windings.

11. What city on the south bank of Orinoco River? Where is Truxillo? What city on the west shore of Lake Maracaybo? What large island north of Venezuela? T. What islands, in the Caribbean Sea, belong to Venezuela? Where are the Colonies of Guiana? To what nations do they belong?

12. What city is the capital of British Guiana? Of Dutch Guiana? Of French Guiana? For what is Cayenne noted? How is the land along the coast of Guiana? How does it appear when approaching it from the water? What are the chief productions?

13. By whom is Guiana inhabited? In what employments are the settlers chiefly engaged? How is the Brazilian Empire bounded? How does Brazil compare in extent with the United States? How with Europe? What is the extent of its coast line? How is Bahia situated? In what direction is Bahia from Pernambuco? Pernambuco from Para? How is Para situated?

LESSON XC.

REVIEW QUESTIONS CONTINUED.

1. By whom is Brazil inhabited? What is the general character of the surface of Brazil? What the climate? What the soil? What are the leading industrial pursuits? Who perform most of the labor? Are the roads good? What are the chief productions? What city is the capital of the empire? How situated?

2. Where is Para? For what is it noted? What cities on the coast of Brazil? On what rivers are the following places, viz.:—Balsamo? Souzel? Coary? Barras? Obidos? Moura? Borba? Santarem? Barra? Describe the following rivers:—St. Francisco. Tocantins. Tapajos. Parnaiba. Araguay.

3. Is Brazil noted for the extent of its manufactures? What are the leading exports? What city lies about 200 miles north-west of Rio Janeiro? By what other name is this city called? Ouro Preto. For what is it noted? As being in the vicinity of gold mines, which are worked by English companies.

4. What mountain ranges in Brazil? What is the geographical position of Uruguay? By what other name is it called? What city is the capital? Describe that city. What form the chief sources of wealth to the inhabitants of Uruguay? Who are the inhabitants? Does agricultural produce form a leading article of export? Why?

5. What town in Uruguay opposite Buenos Ayres? What sea-port town is situated about 60 miles east of Monte-Video? About how far is Monte-Video from Buenos Ayres? Buenos Ayres from the ocean? How wide is the Plata River at Buenos Ayres? Describe the harbor of Buenos Ayres.

6. Of what country is Buenos Ayres the capital? How is La Plata bounded? Is much of the land under cultivation? What form the chief dependence of the inhabitants? What fruits are common to this country? In what zone does nearly all of La Plata lie? In what Brazil?

7. Is any part of Uruguay in the torrid zone? Paraguay? Are the traveling facilities of La Plata any better than in most of the countries of South America? What are the chief manufactures? It is stated that not a thousandth part of the land in La Plata is under cultivation;—is this owing to the poverty of the soil?

8. Describe the *guachos*. What town is the entrepôt of the trade between Chili and La Plata? For what is Salta noted? Where is Corrientes? Tucuman? Cordova? Santa Fe? What large peninsula lies south of La Plata? Do we know much respecting this country?

9. State what has been ascertained respecting its climate. What is its soil? Its productions? What is the character of the inhabitants as far as known?

Have they any general government? Any capital city? What country extends from Patagonia, westward of the Andes, to Bolivia?

10. For what is Chili noted? For the extent of its coast, compared with its entire surface. What is the character of the surface? By whom is Chili inhabited? What form the leading industrial pursuits? What are the chief productions of Chili? What is the climate?

11. What the soil? What the chief manufactures? Which are the important cities? Of these, which are seaports? What destructive phenomena sometimes occur in Chili, and in other countries of South America? For what is Coquimbo noted?

12. What republic lies between Peru and Brazil? How is Bolivia bounded? What is the character of that part of Bolivia that borders on the Pacific? Where is Lake Aullagas? What river is the outlet of Lake Titicaca? The Desaguadero.

13. Has Lake Aullagas any visible outlet? Does Lake Titicaca communicate by any visible outlet with either the Atlantic or the Pacific? How many feet above the level of the Pacific is Lake Titicaca? What trees are numerous in the forests of Bolivia?

14. Are the roads of Bolivia adapted to wheeled vehicles? How then are goods transported? What races form the majority of the inhabitants? Are all the Indians, savages? What are the leading industrial pursuits? Are any of the inhabitants engaged in manufacturing pursuits?

15. What are the chief articles manufactured? What city is the capital of Bolivia? Where is Cochabamba? La Paz? What two celebrated lofty mountain peaks in Bolivia? What small seaport town has Bolivia on the Pacific? C. Does Lake Titicaca lie wholly in Bolivia? Where is Potosi? Cochabamba?

LESSON XCI.

REVIEW QUESTIONS CONTINUED.

1. What two countries lie between Bolivia and Ecuador? Which one is further west? What political division is Peru? What proportion of the inhabitants of Peru are whites? From what races are the Indians of Peru descended? How is the surface of Peru divided?

2. Does it rain frequently on the coast plain? What are the chief productions? How is the climate? What city is the capital? How far from Lima is its port Callao? On what small river is Lima situated? What town is a seaport both for Peru and Bolivia?

3. Where is the city of Cuzco? Truxillo? What large river has its source in Peru? What country north of Peru? Has Ecuador any seacoast? On what ocean? Has Paraguay? Has Uruguay? What country lies north-west of Uruguay?

4. West of La Plata? North of Chili? West of Bolivia? How is Ecuador bounded? What town is the chief seaport? What city is the capital? Describe it. Describe the surface of Ecuador. What are the chief productions? What lofty mountain peaks in Ecuador?

5. In Peru? What lofty volcano north-east of Santiago? Of what Republic is Santiago the capital? In what direction is Buenos Ayres from Santiago? Assumption from Buenos Ayres? Of what Republic is Assumption the capital?

6. Between what rivers is Paraguay situated? Is Paraguay a mountainous country? What race forms the majority of the inhabitants? Is the country governed by the Indians? What town on the Paraguay, about 130 miles above Assumption? What are the leading exports of Paraguay? Mention some of the chief productions.

7. What country lies south of Paraguay? South of La Plata? Where are the Falkland Isles? How far distant are they from Southern Patagonia? How many islands in this group? To whom do they belong? What town is the capital? For what do vessels frequent those islands?

8. What islands compose the Fuegian group? By whom are they inhabited? Where is the Island of Chiloe? To what Republic does it belong? What strait separates it from Continental Chili? Where are the islands of Juan Fernandez?

9. For what is the one nearest to Chili noted? To whom do these islands belong? In how many zones does South America lie? Can we judge respecting the climate of a country *solely* on its distance from the Equator? As a general thing, do not the countries near the Equator have the hottest climates?

10. Do you suppose that the weather is uniformly as warm in La Plata and Chili, as in Ecuador and New Granada? If the climate of a country differs materially from that of another, would you expect their productions to be similar?

11. In what zone is vegetation most luxuriant? In what zone is the greatest number of animals and insects? In what zone is there the least vegetation? In what zone do you live? In what hemisphere? In what grand division of the earth?

12. In what country of that grand division? In what state? What city is its capital? In what direction is the place where you reside, from the capital city of the United States? Through what bodies of water would you pass in going from Washington to Rio Janeiro? From thence to Lima?

13. Of what Republic is Lima the capital? In what grand division of the earth is Peru? Of what continent does South America form a part? What is a continent? How many are there?

EUROPE.

LESSON XCII.

Area in sq. miles, 3,700,000. Population, 262,000,000.

Geographical Position, etc.—Europe, one of the grand divisions of land in the Eastern Hemisphere, lies west of Asia and north of Africa. Its greatest length from Astrachan in Russia, to Brest on the west coast of France, is 2,400 miles, and its extreme breadth from Cape North to Cape Matapan, is 2,360 miles.

Physical Characteristics.—The mountain chains of Europe may be divided into four distinct systems, viz.:—the Scandinavian system which traverses the Peninsula of Norway and Sweden, under the names of the Kiölen and Dovre-Field Mountains; the Alps, of which most of the mountains of France, Germany, Austria, Turkey, and Italy are diverging branches; the Pyrenees, between France and Spain, which extends in several parallel chains throughout the Iberian Peninsula; and the Carpathian, which stretches along the northern and eastern frontiers of Hungary.

A vast plain extends from the mouth of the Rhine, over Northern Germany, Prussia, and Russia to the foot of the Uralian Mountains. The surface of Europe is every where well watered.

Inhabitants.—About nine-tenths of the population belong to the Caucasian race, and are divided into three principal families, viz.:—the Teutonic or German, chiefly inhabiting the northern and central parts of the continent,—the Slavonians, the eastern portions,—and the Celtic, some small parts in the west.

The south of Europe is mainly occupied by a mixed race, resulting from the intermarriage of these three great families. The remnant of the population is made up of the Mongolian race; these are the Finns and Laplanders,—the Samoiedes and Kalmucks (the former in the northern and the latter in the south-eastern part of Russia)—the Turks,—and the Magyars, who form the majority of the population of Hungary.

The first inhabitants of Europe came from Asia, the cradle of the human race; and it is probable that the south-east corner of the continent, or Greece, was the region earliest peopled in Europe.

THE BRITISH ISLES.

LESSON XCIII.

MAP STUDIES.—Systematically Arranged.

Bound the following Countries, viz.:—Scotland, England, Wales, and Ireland.

Describe the following Islands, viz.:—Shetland, Orkney, Wight, Scilly, Anglesea, Holyhead, Man and Hebrides.

Describe the following Towns, viz:—Kirkwall, Newport, Castleton, Douglas and Stornaway.

Describe the following Capes, viz.:—Wrath, Dunnet Head, Duncansby Head,—Kinnaird's Head, Flamboro Head,—Beachy Head, Portland Bill, Prawle Point, Lizard Point,—Land's End, Hartland Point, St. David's Head, Braichy Point, Mull of Galloway, Mull of Kintyre,—Malin Head,—Carnsore Point,—Clear,—Sybil, Slyne, and Urris Heads.

Describe the following Mountains, viz.:—Grampian, Cheviot, Cumbrian, Devonian, Cambrian,—Wicklow, Magillicuddy's Reeks, Barnagee, Slievh Bloom,—Ben Lomond, Ben Nevis,—and Snowdon.

Describe the following Gulfs and Bays, viz.:—Dornoch, Murray, Tay, Forth, the Wash,—West, Plymouth,—Caermarthen, Cardigan, Morecambe, Solway, Wigton, Luce, Clyde,—Dundalk, Dublin,—Waterford, Cork, Bantry, Kenmare,—Dingle, Galway, Clew, Sligo, and Donegal.

LESSON XCIV.

MAP STUDIES.—Systematically Arranged.

Describe the following Straits, viz.:—Pentland, Dover, Spithead, Solent, Menai, The Little Minch, and the Minch.

Describe the following Channels, viz.:—English, Bristol, St. George's, and North.

Describe the following Lakes, viz.:—Tay, Lomond,—Neagh, Killarney, Allen, Ree, Derg, Corrib, and Mask.

Describe the following Rivers, viz.:—Thurso, Findhorn, Spey, Don, Dee, Tay, Forth, Tweed, Tyne, Tees, Esk, Humber, Ouse, Swale, Ure, Derwent, Aire, Don, Trent,—Witham, Nen, Great Ouse, Cam,—Yare, Thames, S. Avon, Frome, Exe, Taw, Severn, Avon, L. Avon, Wye, Taff,—Towy, Teify, Dee, Mersey, Ribble, Eden, Nith, Doon, Ayr, Clyde,—Foyle, Mourne, Finn,—Bann, Boyne, Liffey, Slaney, Barrow, Nore, Suire,—Blackwater, Lee, Bandon, and Shannon.

THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

The Flag of Great Britain.

Geographical Position.—The United Kingdom of Great Britain and Ireland consists of the two large islands of Great Britain and Ireland, and several smaller islands lying between the waters of the North Sea and the Atlantic Ocean. These islands, commonly called the British Isles, are separated from Continental Europe by the North Sea, Strait of Dover, and the English Channel.

Government.—The form of government is a limited monarchy. The succession to the throne is hereditary. The legislative power is shared between the Sovereign and two Houses of Parliament,—the House of Lords, consisting of peers, whose title is hereditary, and the number of whom can be added to by the Crown,—and the House of Commons, consisting of delegates elected by certain classes of the population at large.

Colonial Possessions.—The foreign and colonial possessions of this kingdom embrace territories situated in every quarter of the world:—

In America, several continental and island provinces included under the name of British America, also the Colony of Balize, the Bermuda Isles, and several islands of the West Indies, together with British Guiana and the Falkland Isles.

In Europe, the Islands of Malta and Gozo in the Mediterranean, the fortress, and town of Gibraltar in Spain, a group of small islands in the English Channel, and the Island of Helgoland, or Heligoland, in the North Sea.

In Asia, numerous states, etc., in Hindostan, and Indo-China, comprehended under the name of British India; Aden, in Arabia; also the small Island of Hong-Kong off the coast of China, near the entrance of Canton River.

In Africa, the Colonies of Natal, Cape of Good Hope, and Sierra Leone, and some small settlements on the coast of the Gulf of Guinea, together with the Islands of Mauritius, St. Helena and Ascension.

In OCEANIA, Australia, Van Diemens Land, New Zealand, and the penal settlement of Norfolk Island.

These possessions, together with the British Isles, constitute the BRITISH DOMINIONS—generally styled the BRITISH EMPIRE. The united area of these dominions amounts to about 8,900,000 square miles, and the total population to upwards of 170,000,000

LESSON XCV

MAP STUDIES.—SCOTLAND.

State the situation of the following Cities and Towns, viz.:—Thurso, Wick, Tain, Inverness, Banff, Peterhead, Aberdeen, Stonehaven, Montrose, Dundee, Perth, St. Andrews, Falkirk, Linlithgow, EDINBURGH, Leith, Dunbar, Melrose, Gretna Green, Dumfries, Kirkcudbright, Ayr, Kilmarnock, Paisley, Glasgow, Greenock, Campelltown, and Oban.

SCOTLAND.

Area in sq. miles, 30,000. Population, 2,870,000. Counties, 32.

Geographical Position, etc.—Scotland occupies the northern portion of the Island of Great Britain. The extreme length of the country, from Dunnet Head to the Mull of Galloway, is about 300 miles.

Surface.—Scotland is divided into the *Highlands* and *Lowlands;* the former occupy the northern part, and the latter the southern. About two-thirds of the surface is mountainous.

Soil, etc.—The soil in some of the valleys, and on the east coast, is fertile; but in the mountainous districts it is, for the most part, barren. The climate is humid, and colder than that of England.

The staple crop of Scotland consists of oats. Wheat, and other grains, are also cultivated; and coal, iron and lead are abundant. In some parts, potatoes are extensively grown for the supply of the London market. Sheep and cattle are abundantly reared, and the fisheries are extensive.

Natural Curiosities.—In the small Island of Staffa, which lies a few miles west of the Island of Mull, is the remarkable Cave of Fingal. It is 227 feet long, from 20 to 50 feet broad, and from 60 to nearly 100 feet in height.

The Falls of Clyde, in a river of the same name, consisting of three distinct falls of 30, 84 and 80 feet each, are much noted for their picturesque beauty.

Inhabitants, etc.—The inhabitants form two distinct races; the Highlanders, who are of the Celtic race, and who speak what is called the Gaelic dialect; and the Lowlanders, who are a mixed people, similar to the English. The leading pursuits are manufactures and commerce; and the fisheries constitute an important and valuable branch of industry.

The Inner Court of the Palace of Linlithgow, Scotland.

Traveling Facilities.—Excellent roads extend through almost every part of the country, and canals and railroads are numerous. Two great lines of railways enter Scotland from England—one to Glasgow, and the other to Edinburgh; from these cities, other lines proceed northward, as far as Aberdeen,—between which place and London there is an uninterrupted railway communication about 550 miles in length.

Manufactures and Exports—One of the principal manufactures is that of cotton goods. Linen is also manufactured to some extent; and there are numerous extensive iron-works. The exports are chiefly manufactured goods. Agricultural produce is extensively supplied to England, including large numbers of cattle.

Cities.—Edinburgh, the metropolis of Scotland, is built on a range of hills, about two miles from the south bank of the Firth of Forth. It is noted for its castle, which is built on a lofty rock, and occupies

an area of seven acres, for the ancient royal palace of Holyrood House, and for its University.

ABERDEEN (New), situated on the north bank of the Dee, is a large and handsome city, and carries on an extensive export trade in agricultural products. Steam-vessels ply regularly between this place and London.

MONTROSE, on a peninsula between Montrose Basin and the North Sea, is an important seaport. It is said to export more grain than any other Scottish port.

DUNDEE, an important seaport on the north bank of the Tay, is noted for its extensive exports of linen and hempen goods.

DUMFRIES, on the east bank of the Nith, is the great market for the agricultural produce of Southern Scotland, which is thence exported to England. It is noted for its cemetery, which contains a great number of beautiful monuments; among these, is a splendid mausoleum over the mortal remains of the poet Burns.

GLASGOW, on the Clyde, 43 miles from Edinburgh, is the principal seat of Scotch manufactures and commerce.

LESSON XCVI.

MAP STUDIES.—ENGLAND.

State the situation of the following Cities and Towns, viz.:—Carlisle, Berwick, Alnwick, Newcastle, Sunderland, Whitby, York, Hull, Gainsboro, Lincoln, Boston, Peterboro, Lynn Regis, Norwich, Yarmouth, Lowestoft, Ely, Cambridge, Bedford, Ipswich, Colchester, Hertford, Oxford, Reading, Windsor, LONDON, Greenwich, Canterbury, Margate, Dover, Hastings, Brighton, Portsmouth, Southampton:—

Salisbury, Dorchester, Exeter, Plymouth, Truro, Falmouth, Barnstaple, Taunton, Wells, Bath, Bristol, Gloucester, Cheltenham, Hereford, Worcester, Kidderminster, Wolverhampton, Chester, Liverpool, Preston, Lancaster, Kendal, Whitehaven, Leeds, Huddersfield, Manchester, Sheffield, Macclesfield, Derby, Nottingham, Leicester, Birmingham, Stratford, and Northampton.

ENGLAND.

Area in sq. miles, 51,200. Population, 16,700,000. Counties, 40.

Geographical Position, etc.—England, a highly important portion of the United Kingdom of Great Britain and Ireland, occupies the southern, and larger part of the Island of Great Britain. The extreme length of England from the mouth of the Thames to Land's End is about 430 miles.

Surface.—The greater part is either undulating, or consists of extensive plains. There are some low mountain chains in the north and west; and the coasts abound with inlets.

Soil, etc.—The soil is not naturally fertile, but has been brought under a high state of cultivation by the skill and industry of its inhabitants. The climate is humid, and more mild than that of places on the continent in similar latitudes.

Among the various grains which are extensively cultivated, wheat is the principal; garden vegetables are the crops next in importance. Coal, iron, copper, salt and tin are abundant, and limestone is found in all parts of the kingdom.

Inhabitants, etc.—The English are chiefly descendants of the ancient Saxons. Agriculture and mining employ a considerable portion of the population; but manufactures and commerce constitute the characteristic feature of the national industry, and are the chief sources of its wealth.

Traveling Facilities.—These are very great. The common roads are generally excellent, and canals and railroads are numerous. By means of the latter, none of the important cities and towns of the kingdom are more than from four to six hours' journey from the capital. Electric telegraphs also extend from London to all parts of the kingdom; and one line crosses the English Channel from Dover to Calais in France.

Manufactures and Exports.—In the amount and variety of her manufactures, and in the extent and importance of her commerce, England is unequalled by any other country in the world.

The commerce consists mainly in the *importation* of raw materials and tropical produce, and the *exportation* of manufactured goods. The chief raw materials imported, are cotton mainly from the United States; wool from South America, Germany, Australia and the East Indies; raw silk from India, China, Italy and France; hemp and flax from Russia, and hides from South America, Russia, India and Cape Colony.

Of the manufactured goods, those of cotton, woolen and iron are by far the most important.

Cities.—London, the capital city of England, and the metropolis and seat of government of the British Empire, is situated on both banks of the Thames, about 60 miles above its mouth. The river is here crossed by seven bridges, and by a *tunnel*—a passage way built under the bed of the river. This city contains many splendid edifices,

and numerous large and elegant parks. It is the largest and wealthiest, as well as the chief commercial city in the world.

Windsor Castle, England.

GREENWICH, which adjoins the city on the east, contains the National Observatory, from the meridian of which English geographers (and some of other nations) estimate the degrees of longitude.

NEWCASTLE-ON-THE-TYNE, and SUNDERLAND on the coast, are noted for being extensively engaged in the exportation of coal.

HULL, or KINGSTON-UPON-HULL, on the north side of the estuary of the Humber, is one of the chief seaports of England, and is largely engaged in the Baltic trade.

NORWICH, on the Wensum, 18 miles west of Yarmouth, is noted for its manufactures of crape, bombazines, and horse-hair fabrics; also, for its beautiful cathedral. CAMBRIDGE and OXFORD are celebrated for their universities.

MARGATE, DOVER and BRIGHTON are places of resort in the summer season for bathing, and other sea-side recreations. Dover is also a noted place of embarkation for the continental countries of Europe. The distance from Dover to Calais, in France, is only 21 miles.

PORTSMOUTH and PLYMOUTH are important naval stations. SOUTHAMPTON, at the head of Southampton Water (an inlet of the Solent and Spithead Channels), about 80 miles distant from London, is the chief station for the Mediterranean and the West India steam-packets.

Bristol, on the Lower Avon, is the third seaport city in the kingdom, in point of importance. Bath and Cheltenham are fashionable places of resort, on account of their celebrated mineral springs. Kidderminster, on a branch of the Severn, is noted for its manufactures of carpets, and Macclesfield for its silk goods.

Liverpool, situated on the east bank of the mouth of the Mersey, about 200 miles distant from London, is the great port of the cotton manufacturing district of England, and carries on an immense trade with all parts of the world. It ranks next to London in commercial importance.

Manchester, situated on the Irwell, is noted for its cotton manufactures; Leeds, for woolen goods; York, for its fine cathedral; Sheffield, for cutlery; Nottingham and Leicester, for hosiery and lace; Birmingham, for hardware; and Northampton, for boots and shoes.

Birmingham, one of the greatest manufacturing towns in England, is situated on a ridge, or hill, which rises from the small river Rea —an indirect tributary of the Trent. This ridge forms a part of the watershed which separates the basin of the Trent from that of the Severn. These two basins are united by means of canals, and thus the oceans on the opposite sides of the kingdom are connected.

LESSON XCVII.

MAP STUDIES.—Wales.

State the situation of the following Cities and Towns, viz. :— Caernarvon, Bangor, Holywell, Cardiff, Merthyr Tydfil, Swansea, Caermarthen, Cardigan, Aberystwith,—Holyhead, and Beaumaris.

THE PRINCIPALITY OF WALES.

Area in square miles, 7,200. Population, 1,188,000. Counties, 12.

Geographical Position.—Wales, a principality of the British Empire, occupies the western peninsular portion of the Island of Great Britain.

Surface.—It is mountainous and well watered; and the scenery is generally very picturesque.

Soil, etc.—The soil is less fertile and less cultivated than that of England; but the climate is similar. Barley and oats are the chief grains raised. Iron, coal and other minerals are abundant.

Inhabitants, etc.—The inhabitants are chiefly of the Celtic race, descended from the ancient Britons. Most of them still speak the Welsh language. The mining industry of the country is highly important; but agriculture is in a backward state.

Traveling Facilities.—They do not equal those of England. There are some railroads in South and North Wales.

Manufactures and Exports.—Manufactures are chiefly of woolen goods, which, with mineral produce and cattle, form the leading exports.

Cities.—BANGOR, situated on Menai Strait, is a noted bathing place. Its trade is small, consisting chiefly in the export of slates.

Menai Strait is about 14 miles in length, and from 200 yards to 2 miles in width. It is crossed by a suspension bridge, beneath which ships of the largest class can sail.

A short distance from this, the strait is crossed by a *tubular* suspension-bridge, which consists of two iron tubes, joined together, of more than a quarter of a mile each in length, resting upon massive pillars of masonry, at an elevation of 100 feet above high water. Through this tube rail-cars pass, as if it were a tunnel through solid rock on land.

MERTHYR TYDFIL, the largest town in the principality, is situated on the Taff. It is noted as being in the vicinity of extensive coal and iron mines, and for its numerous iron foundries.

SWANSEA, on Swansea Bay, is a noted seat of trade, and a much frequented watering place.

MAP STUDIES.—IRELAND.

State the situation of the following Cities and Towns, viz.:—Sligo, Donegal, Londonderry, Coleraine, Belfast, Armagh, Newry, Dundalk, Drogheda, DUBLIN, Kingstown, Wicklow, Wexford, Waterford, Kilkenny, Clonmell, Cork, Kinsale, Killarney, Tralee, Tipperary, Limerick, Ennis, Galway, Westport, Carrick, Longford, Roscommon, and Athlone.

IRELAND.

Area in sq. miles, 32,500. Population, 6,615,000. Provinces, 4.

Geographical Position.—Ireland occupies an entire island, lying west of the Island of Great Britain.

Surface.—The central part of Ireland consists chiefly of vast plains, almost encircled by detached groups of mountains. Among these

plains are immense tracts, called *bogs*, producing little else but heath and bog myrtle. The coasts are very irregular. The country is well watered, and, though comparatively destitute of trees, yet the landscape is generally pleasing.

The Giant's Causeway, Ireland.

Soil, etc.—The soil is various; being in some parts fertile, in others, exceedingly barren; and the climate is more moist than that of England. Wheat, barley and oats are the principal crops next to potatoes, which form the staple article of food for the Irish peasantry.

Dairy farms are numerous. Fruits do not ripen without much care and attention. Peat is abundant, and is used by the lower classes for fuel. The leading minerals are marble, granite, iron and copper.

Natural Curiosities.—Among these, the Giant's Causeway is the most remarkable. It is situated on the northern coast of Ireland, about seven miles N. E. of Coleraine. Its length, from the coast seaward, is about 700 feet; its breadth, 350 feet; and its height varies from 1 foot to 30 feet.

It is composed of about 40,000 polygonal pillars of dark-colored basalt. Each pillar, in itself a distinct piece of workmanship, separable from all the adjacent columns, consists of several pieces, the joints of which are articulated with the utmost nicety.

Inhabitants, etc.—Ireland is mainly a grazing country, and great

numbers of cattle are reared, chiefly for exportation. A large majority of the inhabitants are of the Celtic race. About four-fifths of the population directly depend for subsistence and employment upon the soil.

Traveling Facilities.—The roads are generally good. The principal canals are the Royal and Grand Canals, from Dublin to the Shannon; and the canals from Lough Neagh to Belfast and Newry. There are also railroads, connecting Dublin with Belfast, with Cork, with Limerick and with Galway; and several others.

Manufactures and Exports.—The chief and most valuable manufacture is that of linen. Considerable quantities of cotton goods are manufactured in the vicinity of Belfast, and Irish poplin (a fabric of silk and worsted) is made in Dublin. These, with dairy and a variety of agricultural produce (including vast numbers of live cattle and pigs), form the leading articles of export.

Cities.—DUBLIN, the great metropolis of Ireland, situated on both sides of the Liffey, is distinguished for the number and magnificence of its public buildings, and its numerous splendid residences, which entitle it to be regarded as one of the finest cities of Europe.

Six miles to the eastward of the city, on Dublin Bay, is Kingstown, the seaport for Dublin; the mail packet station for communication with Liverpool and Holyhead, and a favorite place of resort for the Dublin citizens.

The traveler is conveyed from Dublin to Holyhead, a distance of 70 miles, by a swift steam-packet in about four hours; thence by railway across the Island of Anglesea, the Menai Strait, Wales and England, to London, in nine hours: the whole distance between the two cities, amounting to 330 miles, being thus traversed in the short space of 13 hours.

BELFAST, situated at the head of Belfast Lough, is noted for its linen and cotton manufactures. It has considerable foreign trade, as well as extensive intercourse by steamers with the chief Scotch and English seaports.

WATERFORD, on the right bank of the Suire, is noted for its fine quay and harbor, and as being the great entrepôt for a large extent of country.

CORK, the second city in Ireland, in size and population, is situated on the Lee, about 12 miles above Cork Harbor. It is the chief emporium of the south of Ireland, and is extensively engaged in the provision trade.

The Vale of Avoca, Ireland.

Limerick, on an island in the Shannon, and on both banks of that river, is largely engaged in the coasting trade. Its noted manufactures are those of lace and fish-hooks; large quantities of the latter are exported to America.

LESSON XCVIII.

SHETLAND ISLES.—This group, situated in the North Atlantic, about 15 leagues north-east of the Orkney Isles, and 44 leagues west of Bergen in Norway (the nearest point of Continental Europe), comprises an area of about 5,300 square miles, and contains about 31,000 inhabitants.

Upwards of 30 of these islands are inhabited, though in several instances only by a few individuals; about 70 are grazing islets, called *holms*, which afford herbage for cattle and sheep, but offer no shelter nor sustenance for man; and a great but unascertained number are skerries or rocks,—mere sea-washed and naked stone.

The climate of the isles is very variable and humid. The long winter nights are often cheered by the beautiful corruscations of the aurora borealis, and in May, June and July, night is scarcely known.

The cattle and horses are of small breeds; many of the latter being strong, spirited, and enduring, have been imported into England to work in the coal pits, and for various other purposes.

The inhabitants (chiefly of Norwegian descent) are mainly occupied in the cod, ling, and (tusk) fisheries. Mainland contains about half the area, and more than half the population of the entire group.

ORKNEY ISLES.—This group, lying in the North Atlantic, from 6 to 12 miles, at the nearest points, distant from Continental Scotland, comprises an area of 600 square miles, and contains 30,500 inhabitants.

The number of inhabited islands is 29: of small islands called *holms*, 38; and the number of *skerries* or rock islets has not been accurately ascertained. The climate does not partake, in any great degree, either of summer's heat or winter's cold.

During about a month at midsummer, the light, owing partly to the highness of the latitude, and partly to the superior reflecting power of water over the land, is so strong, at midnight, that, when the sky is clear, persons may see to read with ease.

The chief employments of the inhabitants are hunting for wild birds and eggs, also cod, herring, and lobster fishing. Great numbers of lobsters are annually shipped for the London market. Rabbits and poultry are very numerous.

WIGHT.—This island, containing an area of 136 square miles, and a population of about 50,000, is situated in the English Channel off the south coast of England, from which it is separated on the north by a channel, called Spithead in its eastern half, and the Solent in its western portion.

The island is frequently visited by tourists, on account of the picturesque and diversified character of its scenery. A constant communication is kept up, by steamboats, with Portsmouth and Southampton, on the opposite shore.

NEWPORT, the capital of the island, is located on Medina River, about four miles from its mouth.

SCILLY ISLES.—This small group, lying 30 miles S. W. of Land's End, consists of about 100 islets and rocks, occupying a space of about 40 square miles. But six of the islets are inhabited.

The inhabitants, numbering 3,000, are chiefly engaged in fishing and the manufacture of *kelp*.*

ANGLESEA.—This island, situated in the Irish Sea, forms a county of Wales, from the continental part of which it is separated by Menai Strait. The area of the island is about 270 square miles, and its population amounts to 59,000.

* Kelp is the calcined ashes of seaweed, used in the manufacture of glass.

The island is much celebrated for its black cattle, which are highly prized in the English markets. Considerable trade is carried on in butter, cheese, hides, tallow, wax and honey.

Beaumaris, the capital, is situated at the north entrance of Menai Strait. Steamboats ply between this place and Liverpool during nine months of the year.

HOLYHEAD is a small island on the west side of Anglesea, from which it is divided by a strait, in some places fordable at low water. The town of Holyhead owes its importance chiefly to the fact that it is the nearest British port to Dublin.

MAN.—This island, containing an area of 280 square miles, occupies a central position in the Irish Sea, about equidistant from the seaports of Glasgow, Liverpool and Belfast.

The population amounts to about 50,000, a large proportion of whom are engaged either in the mines or in the herring fishery. The exports are chiefly herring, cattle, poultry, eggs, butter, corn, limestone and lead-ore.

Castleton, or Castletown, is the capital of the island. Douglas, on the east coast, is a seaport town and watering-place. The Liverpool and Glasgow steamers frequently stop at this port. Those that ply between Whitehaven and Dublin touch at the island twice a week.

HEBRIDES or WESTERN ISLES.—These islands consist of two principal groups, called the Inner and the Outer Hebrides.

The total number, not including the small islets, amounts to 160; of these only 70 are inhabited throughout the year. The estimated area is 3,180 square miles, and the population probably equals 100,000.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE BRITISH ISLES.

LESSON XCIX.

1. What countries are included in the United Kingdom of Great Britain and Ireland? What three are situated on the Island of Great Britain? What part of this island does England occupy? What part Scotland? What part Wales?

2. What hills and river separate Scotland from England? What bodies of water separate Ireland from Great Britain? What ocean is west of Ireland?

What channel at the mouth of the Severn? By what channel is the Irish Sea connected with the ocean on the south? On the north?

3. What sea lies to the east of Great Britain? What is the form of government of the British Isles? What is the extreme length of Scotland? How is Scotland divided? What is the general character of the surface? By whom is Scotland inhabited?

4. What city is the capital? For what is this city noted? How is it situated? It is situated about two miles distant from the south bank of the mouth of the River Forth. What town is its seaport? L . . . h.

5. At the mouth of what river is Dundee? On the north bank of what river is Aberdeen? In what direction is Inverness from Aberdeen? At the entrance of what canal is Inverness? The Caledonian Canal. What town is on the Nith? What cities on the Clyde?

6. About how far is Glasgow from Edinburgh? For what is Ayr noted? As being in the vicinity of the birth-place of the poet Burns. What mountain chain in Scotland? What in the northern part of England? What in the south-western part? What chain in Wales? Mention its loftiest peaks. Where is Cardigan?

7. Which are the principal mountain chains of Ireland? What is the general character of the climate of Scotland? What parts of Scotland are the most fertile? What minerals are abundant? What vegetable is extensively grown? Is more grown than is sufficient for home consumption?

8. What are the leading industrial pursuits? What form the principal articles of manufacture? What remarkable natural curiosity in the Island of Staffa? Where is that island? Describe the traveling facilities of Scotland. What does Scotland chiefly export?

9. Of its cities and towns, on the map, which one is a few miles south-west of Dunnet Head? Which one a few miles south of Kinnaird's Head? Which are on the Tay? Which on the Forth? On the Tweed? On the Nith? On the Ayr?

10. On which bank of the Clyde is Glasgow? On which bank Greenock? Where are the Orkney Isles? What group lies about fifteen leagues to the north-east? Where are the Hebrides? Into how many groups are these divided? What two straits separate the Outer Hebrides from Continental Scotland?

11. What hills in the northern part of Scotland? Which are the most important rivers in Scotland? Which of these do *not* empty into the North Sea? What two rivers empty into the North Sea, near Aberdeen? What one near St. Andrew's? For what is St. Andrew's noted? For its educational institutions.

12. Into what does the Nith empty about nine miles below Dumfries? For what is Dumfries noted? In what direction is Kirkcudbright from Dum-

fries? How is it situated? On an estuary of the Dee, about six miles above its junction with Solway Firth.

13. In what direction is Kilmarnock from Ayr? How are these two towns connected with each other and Glasgow? By railroad. For what is Kilmarnock noted? For its manufactures—particularly those of Brussels and Wilton carpets, and boots and shoes. How is Paisley situated? In the south-western part of Scotland, on a small stream, called the White Cart, a tributary of the Clyde.

LESSON C.

REVIEW QUESTIONS CONTINUED.

1. What country occupies the southern part of the Island of Great Britain? Into how many counties is England divided? What is the length of England from the mouth of the Thames to Land's End? How is the climate of England? Is the soil naturally fertile?

2. Is the land well cultivated? What forms the principal crop? What are next in importance? How is the surface? Is agriculture in as forward a state in Wales as in England? Is England as mountainous as Wales? As Scotland? As Ireland?

3. What is the height, in feet, of the loftiest summit of the Grampian Mountains? 4,380. What of the Cheviot Hills? 2,684. Of the Cumbrian Mountains? 3,055. Of the Cambrian? 3,571. Of the Wicklow? 3,039. Of the Magillicuddy's Reeks? 3,404. Of the Slievh Bloom Mountains? 1,733.

4. What rivers form the Humber? The Ouse and Trent. What ones form the Ouse? What three other rivers empty into the Ouse? On which one of these is York situated? On which one Leeds? On which one Sheffield?

5. For what is Sheffield noted? For what Leeds? For what York? What city is situated on the estuary of the Humber? In what trade is this city extensively engaged? What are the leading industrial pursuits of the inhabitants of England?

6. What minerals are abundant in Great Britain? In what does England's commerce chiefly consist? From what country does she import most of her raw cotton? From what, hemp? Where does she get wool for the supply of her manufactories? Where, raw silk?

7. Has she a supply of iron and coal within her own territory for manufacturing purposes? What river flows into an estuary called "The Wash?" Describe that river. On what river is London? Describe that city. For what are Margate, Dover, and Brighton noted?

8. Which one of these is also a noted place of embarkation for Continental Europe? D. What is the distance from Dover, to Calais, in France? Where

is Yarmouth? What city lies about 18 miles to the west? For what is it celebrated?

9. In what direction is Norwich from London? Bristol from London? Bath from Bristol? For what are Bath and Cheltenham celebrated? How is Cheltenham situated? On a small affluent of the Severn, and on the Bristol and Birmingham railroad.

10. How is Bath situated? What city, on the same river, a few miles below? How does this city rank as a seaport? What city is the chief station for the Mediterranean and the West India Steam packets? S. About how far is Southampton from London?

11. Which are the two most important naval stations of England? How is the Isle of Wight separated from Continental England? What water between it and Continental Europe? Is England in Continental or is it in Insular Europe?

12. How does Liverpool rank as a commercial city? About how far is it from London? Is it connected by railway with that city? Yes. Where is Birmingham? For what branch of manufacturing industry is this place noted?

13. For what is Northampton? For what Kidderminster? What town is noted for its manufactures of silk goods? M. In what part of England is Macclesfield? Of the cities and towns on the map, in England, which on the Tyne?

14. On the Ouse? On the Trent? On the Don? On the Severn? On the Lower Avon? On the Thames? On the South Avon? On the Wye? On the Mersey? On the Rea? B. On the Wensum? Norwich. On the Ribble? For what are Newcastle and Sunderland noted?

15. How is Wales bounded? Mention its chief cities and towns. Of these, which two on the Taff? Which on the Towy? On the Teify? On the coast of Cardigan Bay? On Menai Strait? How is Holywell situated? In Northern Wales, near the estuary of the Dee, and on the line of the Chester and Holyhead railway.

16. What two noted rivers of England have their source in Wales? What town is the capital of Anglesea? What town, in Wales, is the nearest British port to Dublin? How long does it require to go from port to port? About four hours.

17. To what race do the Welsh chiefly belong? From whom are they descended? How is the soil of Wales? How the surface? For what is Bangor noted? What town in South Wales is also a noted bathing place? Describe the tubular bridge that spans Menai Strait.

18. In what direction is Swansea from Aberystwith? On which side of the Cumbrian Range is this town situated? In what direction is Holywell from Aberystwith? Holywell from London? Where is Carlisle? In Northern

England, near Solway Firth, at the junction of two small rivers, and at the termination of the London and N. W. railroad.

LESSON CI.

REVIEW QUESTIONS CONTINUED.

1. What seaport town about 35 miles S. W. of Carlisle? Which is further north, Whitehaven or Newcastle? Newcastle or Sunderland? York or Leeds? Leeds or Liverpool? Nottingham or Birmingham? Kidderminster or Worcester?

2. For what is Leicester noted? It is noted as being the principal seat in England for the manufacture of hosiery. What city is the capital of Ireland? How is the climate of Ireland compared with that of England? What is the general character of the surface of Ireland?

3. Is coal abundant? What is generally used for fuel by the lower classes? What form the principal crops? Of what race are a large majority of the people? Do the mass of the inhabitants depend on manufactures or do they depend on agricultural products, for their subsistence and employment?

4. What celebrated natural curiosity in the north of Ireland? Where are the beautiful Lakes of Killarney? Where the celebrated Vale of Avoca? What are the traveling facilities of Ireland? On both sides of what river is Dublin? Through what bodies of water, and what would be your courses, in a voyage from Dublin to Glasgow? From Glasgow to Limerick?

5. What three rivers empty into Waterford harbor? What town at the mouth of the Suire? On both sides of the Suire? On the Nore? At the mouth of the Slaney? On the Lee? How far above the harbor is Cork? About 12 miles. What town on the estuary of the Bandon?

6. What town about a mile and a half from Lake Killarney? On what river is Limerick? Athlone? Drogheda? Londonderry? Coleraine? How is Belfast situated? For what is it noted? How is Galway situated? It is situated on Galway River, the outlet of Lough, or Lake Corrib.

7. Which is the more populous, Ireland or Scotland? England or Scotland? Which has the greater extent in square miles, England or Ireland? England or Scotland? What is the total extent of the British Isles? What the total population?

8. What island, in the Irish Sea, about midway between England and Ireland? Is this island larger than the Isle of Wight? About how much? How do these islands compare as it respects the number of inhabitants? What island, south of the Isle of Man, nearly equals it in extent? For what is Anglesea much celebrated?

9. What are the leading industrial pursuits of the inhabitants of the Isle of Man? What town is the chief seaport? What courses would you take,

through what waters would you pass, in a voyage from Douglas to Glasgow? What group of islands lies west of Continental Scotland?

10. What is the total number of the Hebrides? How many of them are inhabited? In what direction are the Orkney Isles from the Hebrides? How far distant are the nearest of these isles from Continental Scotland? How many of these isles are inhabited?

11. About how far distant are the Shetland Isles from the nearest port of Norway? In what direction are these isles from the Orkneys? The Orkneys from Continental Scotland? In what direction is Scotland from England? England from France? From Belgium? From Denmark? From Norway?

12. What colonial possessions has Great Britain in America? What in Europe? What in Asia? What in Oceania? In Africa? What do these possessions, together with the British Isles, constitute? What are the British Dominions frequently styled? What city is the capital of the empire? London.

LESSON CII.

STUDIES ON THE MAP OF EUROPE.—Systematically Arranged.

COMPRISING NORWAY, SWEDEN, AND RUSSIA.

Bound the following Countries, viz.:—Norway, Sweden, and Russia.

* *Cities and Towns.*

Describe the following Islands, viz.:—Loffoden, Qualoe, Mageroe, † Oesel, Dago, Aland Isles,—Gothland, Oland, and Bornholm.

Describe the following Peninsulas, viz.:—Scandinavian (or Norway with Sweden) and Crimea.

Describe the following Capes, viz.:—North, Sviatoi, and The Naze.

Describe the following Mountain Ranges, viz.:—Dovre Field, Kiölen, Ural, Caucasus, and Valdai Hills.

Describe the following Seas, viz.:—White, Caspian, Black, Azov, and Baltic.

Describe the following Gulfs and Bays, viz.:—Onega, Archangel, Mezene, Tcheskaya, Riga, Finland, Bothnia, Bukke, Drontheim and West.

Describe the following Straits, viz.:—Enikale, The Sound, Cattegat, and Skager Rack.

* The cities and towns are given as Map Studies immediately preceding the description of the respective Countries in which they are situated.

† In the Baltic Sea.

Describe the following Lakes viz. :—Kubinskoe, Seligher, *Peipus, Ilmen, Onega, †Ladoga, Saima, ‡ Pijane, Tornea, Malar, § Wetter, and Wener.

Describe the following Rivers, viz. :—Tana, Tuloma, Panoi, Onega, Dwina, Jug, Vitchegda, Soukhona,—Mezene, Petchora, Ural, Volga, Unja, Kama, Bielaya, Viatka, Oka, Moskva, Sura,—Terek, Kuban, Don, Khoper, Sal, Donetz,—Dnieper, Desna, Pripet,—Bog, Dniester, Niemen, Duna, Volkhov, Svir, Kemi, Tornea, Nuoma, Kalix, Lulea, Skelleftea, Umea, Indal, Dahl, Glommen, and Klar.

CONTINENTAL EUROPE.

LESSON CIII.

MAP STUDIES.—SYSTEMATICALLY ARRANGED.

Bound the following Countries, viz. :—France, Belgium, Holland, Germany, Denmark, Prussia, Austria, Turkey, Greece, Italy, Spain, Portugal, and Switzerland.

Describe the following Islands, viz. :—Jersey, Sark, Guernsey, Alderney,—Helgoland,—Zealand, Funen, Laland, Falster, Moen, Rugen, —Isles of the Grecian Archipelago, Candia, or Crete, Ionian Isles, Malta, Gozo, Sicily, Lipari Isles, Sardinia, Corsica, Elba, Balearic Isles, —Isle d'Oleron, Re, and Belle.

State the situation of the following Island Towns, viz. :—CANDIA, —CORFU,—VALETTA,—Marsala, Trapani, PALERMO, Messina, Catania, Syracuse, Noto, Girgenti,—Sassari, CAGLIARI,—Bastia, AJACCIO,—Port Mahon, and PALMA.

Describe the following Peninsulas, viz. :—Denmark, Greece, Italy, Iberian, or Spain with Portugal.

Describe the following Capes, viz. :—De la Hogue, Skagen,—Matapan, di Leuca, Colonna, Spartivento, Circello, St. Sebastian, St. Martin, Palos, Gata, Trafalgar, St. Vincent, Espichel, Roca, Finisterre, Ortegal, and St. Mathieu.

Describe the following Island Capes, viz. :—Passaro, Granitola,—Teulada,—Corso,—and Salinas.

Describe the following Mountain Ranges, viz. :—Carpathian, Bal

* The outlet of Lake Peipus is the Narova River. † The outlet of Lake Ladoga is the River Neva. ‡ The outlet of Pijane Lake is the Pijane River.

§ The outlet of Lake Wetter is the Motala River, and of Lake Wener is the Gotha River. These two lakes are connected by a canal.

kan, Pindus,—Alps, Apennines,—Pyrenees, Asturian, Castilian, Sierra de Toledo, Sierra Morena, Sierra Nevada,—Auvergne, Cevennes, Jura, Cote d'Or, and Vosges.

*State in what range are the following Mountain Peaks, viz.:**—St. Gothard, Rosa, Great St. Bernard, and Blanc.

REMARK.—The branches of the Alps, and the remainder of the mountain ranges of Central Europe have been already mentioned.

Describe the following Seas, viz.:—North, Baltic, Black, Azov, Marmora, Grecian Archipelago, Adriatic, and Mediterranean.

Describe the following Gulfs and Bays, viz.:—St. Michael, Zuider Zee, Lubeck, Dantzic,—Salonica, Nauplia, Coron, Lepanto, Venice, Manfredonia, Taranto, Squillace, Salerno, Naples, Genoa, Lyons,—and Biscay.

Describe the following Straits, viz.:—Dover, Skager Rack, Cattegat, The Sound,—Bosporus, Dardanelles, Otranto, Messina, Gibraltar, and Bonifacio.

Describe the following Lakes, viz.:—Balaton,—†Garda, Como, Lugano, Maggiore,—Geneva, Neufchatel, Bienne, Thun, Lucerne, Zurich, and Constance.

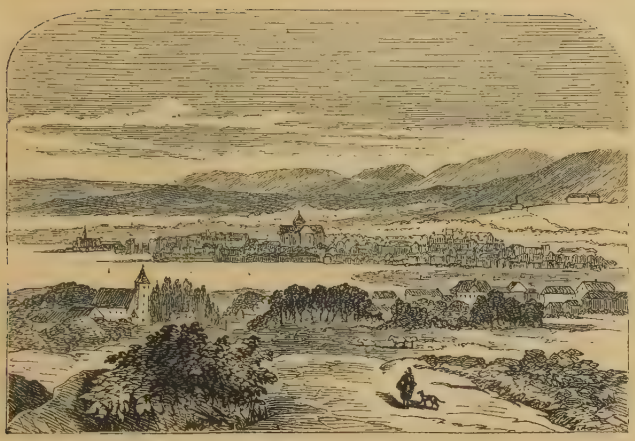
Describe the following Rivers, viz.:—Orne, Seine, Marne, Oise, Aisne, Yonne, Somme, ‡Rhine, Neckar, Main, *Aar, *Reuss, Limmat, Moselle, Meuse,—Ems, Weser, Werra, Fulda, Leine,—Elbe, Havel, Spree, Moldau,—Oder, Wartha,—Vistula, Bug:—

Danube, Waag, Theiss, Koros, Maros, Aluta, Sereth, Pruth, Isar, Inn, Drave, Mur, Save, Morava,—Maritza, Vardar, Uskup, Tzerna, Adige, Po, Ticino, Adda, Mincio, Tiber, Arno, Rhone, Durance, Saone, —Ebro, Aragon, Segre, Jalon,—Turio, Jucar, Segura, Guadalquivir, Guardamena, Genil,—Guadiana, Tagus, Douro, Pisuerga, Arlanzon, Esla, Tormes,—Minho, Sil,—Gironde, Garonne, Lot, Dordogne,—Charente, Loire, Allier, Cher, Vienne,—and Vilaine.

* See Map of Germanic Confederation. † For Garda and the remainder of the Lakes see Italy and Switzerland, on the Map of the Germanic Confederation.

‡ *Description of the Rhine.*—The Rhine is formed by the union of two streams, the Hinter and the Vorder Rhine; the latter rises on the east side of Mount St. Gothard, in Switzerland. The united stream flows generally a northerly course till it enters Lake Constance; thence it pursues a westerly course for about 80 miles to the city of Basle, separating Germany from Switzerland; it then turns and flows northerly, and for the space of about 100 miles becomes the boundary between France and Germany; afterward it pursues a northerly and north-westerly course through Germany and Rhenish Prussia, and on entering Holland it divides into two branches,—the Waal and the Rhine

A few miles below, the latter stream divides into two branches; the one flows to the Zuider Zee under the name of the Yssel, the other (which retains the name of the Rhine) pursues a westwardly course for several miles and again divides,—the main stream being



Christiana, Norway.

LESSON CIV.

MAP STUDIES.—NORWAY.

State the situation of the following Cities and Towns, viz.:—Bodoe, CHRISTIANIA, Drammen, Arendel, Christiansand, Bergen, Drontheim, and Hammerfest.

THE KINGDOM OF NORWAY.

Area in sq. miles, 122,460. Population, 1,328,000. Provinces, 5.

Geographical Position, etc.—Norway occupies the western portion of the Scandinavian Peninsula of Northern Europe. The isthmus which unites this peninsula to the mainland is nearly 300 miles across, between the head of the Gulf of Bothnia and the shores of the Arctic Ocean.

The greatest length of the peninsula, from Cape North to the southern extremity of Sweden, is 1,150 miles, and the breadth of the southern portion of Norway is about 250 miles.

called the Leck, and the other the Rhine. The former, after a course of some miles, loses itself in the Meuse or Maas; the latter pursues a north-west course till it reaches Utrecht, where, for the fourth and last time, the Rhine again divides. The right branch, called the Vecht, finds its way to the Zuider Zee, and the left, called the Old Rhine, flows on past the city of Leyden, and empties into the North Sea.

Surface.—It is mountainous, abounding in romantic scenery; and the coast is deeply indented by numerous *fiords*, or salt-water inlets.

Soil, etc.—The soil is generally poor; in some places it is so shallow as not to admit of being ploughed. The winters are long and cold, and the summers warm, but of short duration. In this country, as well as in various other places in high latitudes, vegetation is extremely rapid, on the return of summer. In many districts, barley is reaped in six or seven weeks after the seed has been sown.

Rye, barley, oats and potatoes, are the chief agricultural products. Fruit trees are not common in Norway. The rivers, seas and lakes, of the entire peninsula, swarm with the greatest abundance of fish. The Norwegian horses, a small but hardy breed, are extensively exported to Sweden and Great Britain. Of minerals, iron and copper are the most abundant. The principal sources of wealth are the mines, forests and fisheries.

Inhabitants.—The Norwegians are of Germano-Celtic origin. Their leading pursuits are raising cattle, mining and fishing. Laplanders and Finns inhabit the northern part of the country.

Traveling Facilities.—There are no railroads or canals, and no public coaches in the kingdom; to facilitate communication, *stations* have been established at distances of from 7 to 10 miles. At each station the neighboring farmers are obliged to furnish horses and a driver to carry the traveler to the next station. The remuneration they are entitled to receive, is fixed by the government.

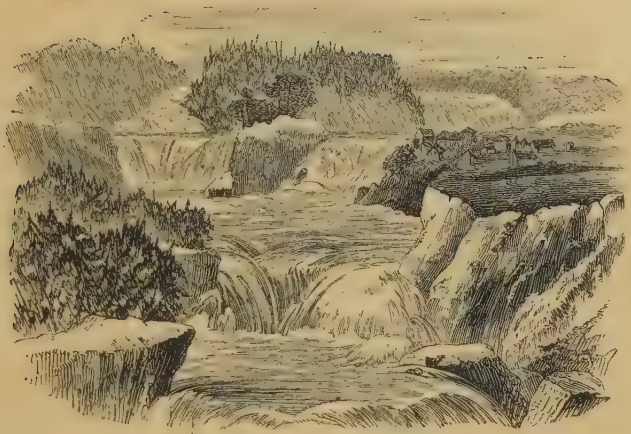
Few of the rivers are navigable for any distance inland. The Glommen, the longest river in the kingdom, is navigable for ships only the distance of 14 miles from its mouth.

Manufactures and Exports.—Manufactures are few, and chiefly limited to useful articles for domestic life and agricultural purposes. The leading exports are iron, copper, fish, timber, cod-liver oil, turpentine and horses.

Cities.—Christiania, the capital, situated at the head of Christiania Bay, is the chief seat of foreign trade. The bay is dotted with numerous wooded islands, which present a beautiful appearance when viewed from the city.

Drammen, twenty-four miles south-west of the capital, is noted for its trade in timber.

Bergen, on the western coast, derives its chief importance from being the entrepôt of the fisheries of the country.



Trolhœtta Falls, Sweden.

LESSON CV.

MAP STUDIES.—SWEDEN.

State the situation of the following Cities and Towns, viz.:—Pitea, Umea, Sundsvall, Gefle, Falun, Upsal, STOCKHOLM, Linkoping, Kalmar, Carlscrona, Malmo, Helsingborg, and Gottenburg.

THE KINGDOM OF SWEDEN.

Area in sq. miles, 170,500. Population, 3,300,000. Laens, or Provinces, 24.

Geographical Position, etc.—Sweden occupies the eastern and larger portion of the Scandinavian Peninsula.

Surface.—It is mostly level, abounding in lakes and small rivers. Nearly one-eighth of the surface is covered with lakes, and one-fourth with forests, consisting chiefly of beech, oak, fir, pine and birch.

Soil, etc.—The soil is not generally good, and only a small part of either this country or Norway is under cultivation. The winter throughout the greater part of the entire peninsula occupies about seven months of the year, during which the ground is covered with snow, and the surface of the lakes and rivers forms a firm coating of ice. Upon the frozen surface thus every where presented, the inhabitants travel with facility in sledges drawn by horses or by reindeer.

The products resemble those of Norway, except that in this part of the peninsula a surplus of corn is raised; while, in Norway, there is not enough for home consumption.

Natural Curiosities.—There are several interesting cataracts in various parts of the Scandinavian Peninsula; the most noted of which are the Falls of Trolhœtta, which occur in the River Gotha, about 50 miles distant from Gottenburg. It is the greatest Fall in Europe of the same volume of water.

Inhabitants, etc.—The inhabitants are styled Swedes, and are of the same origin as the Norwegians. The people of Sweden and Norway speak different dialects of a language which is radically the same. The leading industrial pursuits are rearing of live-stock, mining and commerce.

Traveling Facilities.—These are similar to those of Norway, with the addition of canals. The main roads to and from Stockholm are generally excellent. The most important canals are those of Gotha and Trolhœtta; the former connecting Lakes Wener and Wetter, and the latter overcoming the obstructions in the navigation of the outlet of Lake Wener.

By means of these canals, a navigable water communication is maintained from the Baltic Sea to the Strait of Cattegat, across the southern part of Sweden. Steamboats ply on all the principal lakes, and on such parts of the rivers as are navigable.

Manufactures and Exports.—Manufactures are not extensive. The exports are mainly timber, grains, and the produce of the mines. Lobsters are exported to the English market in large numbers.

Cities and Towns.—Stockholm, the capital of the Kingdom of Norway and Sweden, is built on some small islands, at the entrance of Lake Malar. These islands are united by several bridges. Its situation is extremely picturesque, and it is the chief commercial emporium of Sweden.

Falun, or Fahlun, is a small town, noted for the extensive copper mines in its vicinity.

Carlscrona, situated on some small islands off the South coast, is the naval arsenal of Sweden. The principal part of the town communicates with the mainland by a bridge.

Malmo, on the east shore of the Sound, nearly opposite Copenhagen, is one of the strongest towns in the kingdom, and carries on considerable commerce.

Gottenburg, at the mouth of the Gotha, is, next to the capital, the most important trading city in the kingdom.

LESSON CVI.

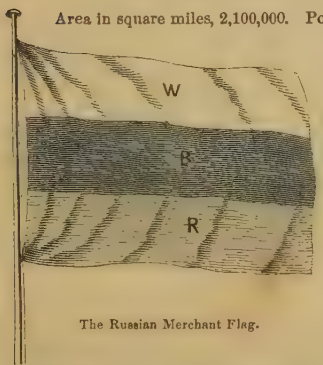
MAP STUDIES.—RUSSIA.

State the situation of the following Cities and Towns, viz.:—Archangel, Mezene, Perm, Viatka, Kasan, Simbirsk, Samara, Orenburg, Ouralsk, Saratov, Kamishin, Astrachan, Derbent, Stavropol, Old Tcherkask, Taganrog, Kertch, Sebastopol, Ekatherinoslav, Kharkov, Cherson, Nicolaev, Odessa, Ismail, Zytomir, Kiev, Warsaw, Grodno, Moghilev, Minsk, Vitepsk, Wilna, Mittau, Riga, Revel, Pskov, Cronstadt, ST. PETERSBURG:—

Vologda, Jaroslav, Nijnii Novgorod, Penza, Voronej, Koursk, Orel, Smolensk, Tver, Moscow, Kaluga, Tula,—Kola,—Tornea, Uleaborg, Wiborg, Helsingfors, Abo, and Wasa.

THE EMPIRE OF RUSSIA (EUROPEAN).

Area in square miles, 2,100,000. Population, 60,0 0,000. Governments, 49.



The Russian Merchant Flag.

Geographical Position, etc.—This vast empire occupies the entire eastern portion of the European Continent. Its length from the south part of the Crimea to the shores of the Arctic Ocean is about 1,700 miles. It comprises 49 governments, besides the Province of Finland, and the portion of the former Kingdom of Poland which still preserves the name of that country.

Surface.—It is chiefly a plain, divided into three parts—a northern, a western, and a southern region—indicated by the respective courses of the rivers toward the Arctic Ocean, the Baltic Sea, and the Black and Caspian Seas; but the slopes of these are very gradual.

Soil, etc.—The soil is marshy and poor in the north; but in the south it is tolerably fertile. In the northern part of the empire, there may be said to be only two seasons—summer and winter; the termination of the heat of summer being immediately followed by the frost and snow of winter. In the south, it is mild and temperate.

Forests are numerous, and furnish timber, pitch, potash and turpentine in abundance. Fur-bearing animals abound along the borders of the Arctic Ocean. Corn, rye and barley are among the important

products. The most extensive iron-works of Russia are near Lake Onega. Fruits flourish in the south, and cattle are numerous in every part of the empire.

Inhabitants.—They are chiefly of the Slavonic race (ancient inhabitants of Russia). The Tartars inhabit the south-east part of the empire. The mass of the people are serfs, bought and sold with the soil. Agriculture and commerce are the leading pursuits.

Moscow, Russia.

Traveling Facilities.—Much attention has been given of late to internal improvement in the constructing of railroads. By means of canals, the seas, lakes and rivers of the empire are united into a complete system of internal navigation. By means of the canal which connects the Oka with the Don, at Tula, there is an uninterrupted water communication between the Caspian Sea and the Sea of Azov.

Manufactures and Exports.—Manufactures are on the increase; among the most important articles are glass, metal-wares, hempen fabrics and leather. The foreign trade of Russia consists in the exchange of her native products,—such as tallow, hides, corn, iron, hemp, furs and timber, for the luxuries and finer manufactures of other countries.

Cities.—St. Petersburg, the capital, is built partly on islands at the mouth of the River Neva, and partly on the adjacent mainland. The communication between the different parts of the city is kept up,

during the summer, by bridges of boats; and by the ice, in winter, at which time the boats are removed. It is the chief commercial city of the empire, and is noted for its spacious streets, and its lofty and elegant buildings.

The oldest and perhaps the most noted structure in St. Petersburg, is the small hut in which Peter the Great dwelt, while superintending the building of the city. It is now covered with a brick building, to preserve it from the effects of the weather.

Archangel, on the right bank of the Dwina, is the chief seaport of the northern provinces of Russia.

Astrachan, on an island in the Volga, is the centre of the maritime commerce of Russia with the countries of Western Asia. It is also the chief seat of the fisheries of the Caspian Sea and the Volga.

Sebastopol, a strongly fortified seaport town of Southern Russia, is situated on the west coast of the Peninsula of the Crimea. The entrance to the harbor (1,300 yards in width) is defended by strong batteries placed at the extremity of the two points of land that form the north and south horns of the bay. It was the station for the Russian fleet in the Black Sea.

Odessa, on the north-western shore of the Black Sea, is the southern emporium of Russian commerce.

Warsaw, the ancient capital of Poland, lies on the left bank of the Vistula. This city has lost much of its former importance since the downfall of Polish independence; though it is still the great entrepôt of trade for Russian Poland.

Moscow, situated on the River Moskva, is a large city, and the centre of a great inland commerce. It is the favorite residence of the wealthiest and most ancient noble families of the empire.

LAPLAND, a cold and barren country of Northern Europe, belongs partly to Russia, and partly to Sweden. The boundaries of this region are not very definite. The estimated area is about 150,000 square miles.

The climate is so cold in winter that water is often frozen in the vessel, as the person is in the act of drinking it; but in the summer (which is very short) the heat is sometimes as great as in countries situated some 15 or 20 degrees further south. In the parts north of the Arctic Circle, the sun is constantly visible for a number of weeks about midsummer, and invisible for nearly the same period about

Christmas. The Laplanders live chiefly in tents, and are clothed with the skins of the reindeer and other animals.

Their habits are frequently dirty and repulsive; but many of them are now partially engaged in agricultural or trading occupations.

The entire population is loosely estimated at 60,000; of whom 9,000 are Laplanders, and the remainder Norwegians, Swedes, and Russians.

Among the animals of Lapland, the reindeer is the most valuable to the inhabitants. Indeed it forms almost their entire wealth. Its milk and flesh afford them excellent food; its sinews are made into thread; its horns into glue, and also into spoons and other domestic utensils, and its skin into clothing. Of these useful creatures a wealthy Laplander possesses 1,000 or more, and the poorer people, from 50 to 100. With a couple of reindeer attached to a small, light sledge, a Laplander will travel 50 or 60 miles a day.

LESSON CVII.

MAP STUDIES.—TURKEY IN EUROPE.

(See Map of "Continental Europe.")

State the situation of the following Cities, viz.:—Bosna Serai, Novi Bazar,—Belgrade,—Jassy, Galatz,—Brahilov, Bucharest,—Widin, Rustchuk, Silistria, Varna, Shumla, Sophia, Philippopoli, Adrianople, CONSTANTINOPLE, Rodosto, Gallipoli, Makri,—Uskup, Salonica, Monastir,—Larissa,—Scutari, Yanina, and Avlona.

THE EMPIRE OF TURKEY (EUROPEAN).

Area in square miles, 210,000. Population, 12,500,000. Provinces, or Eyalets, 15.

Geographical Position, etc.—European Turkey occupies a part of the most easterly of the three great peninsulas of Southern Europe. Its greatest extent from north to south is about 700 miles, and from east to west its extreme dimensions are nearly the same.

Surface.—A chain of mountains traverses the central part of Turkey, from which a diverging branch passes south into Greece. The other principal mountains are the Carpathian, on the northern frontier and the Dinaric Alps in the north-west. The remainder of the surface is an undulating region of hills and valleys.

Soil, etc.—The soil is exceedingly fertile; but only a small portion is cultivated, and the climate in the north is changeable, while in the

south it is generally warm and pleasant. The climate, however, is not as mild as might be supposed from the geographical position of the country.

Rice, cotton, and barley, are cultivated in the central and elevated districts; grapes, figs, olives, oranges, and other fruits, are plentiful in the south. In the Principality of Servia, tobacco, hemp, and flax, are grown in large quantities. Turkey is noted for its abundance of opium and rhubarb.

Trout are plentiful in the rivers, and the marshes abound with leeches, which form an important article of export. Goats are more abundant here than in any other country in Europe. The southern base of the Balkan Range is remarkable for the abundance of its roses, from which the celebrated *attar*, or otto, of roses is distilled.

Inhabitants, etc.—The Turks, though but a small part of the population, are the ruling people. The remainder of the population is mainly composed of Greeks, Armenians and Jews.

The Turks spend much of their time in the bagnios, or public baths. The females of Turkey, when they appear in the streets, are so muffled and veiled that they cannot be recognized. Both men and women sit, eat and sleep on the floor on cushions, or sofa mattresses and carpets.

Traveling Facilities.—Very few of the roads are practicable for carriages; and horses, or mules, are generally employed, both for the conveyance of passengers and of goods. There are neither canals nor railroads in the country. The Danube is the great highway of commerce for all the northern provinces.

Manufactures and Exports.—The manufactures of Turkey are chiefly those of carpets, silks and Turkey leather. The commerce of the country consists principally in these articles, and in its various products in their natural state, particularly drugs and fruit.

Cities.—CONSTANTINOPLE, the capital both of European and of Asiatic Turkey, is built on a tongue of land on the west side of the Strait of Bosphorus, and on an inlet, or bay, of the same name, known as the "Golden Horn."

The general aspect of the city, when approached by water, is exceedingly beautiful; but it is found, on examination, to consist of a perfect labyrinth of narrow, winding, steep and dirty streets. The houses are generally built of wood, and present dead walls to the street; light and air being derived from interior court-yards.

The most noted public buildings are the Seraglio, or Imperial

Palace, situated at the eastern extremity of the city; and a Mohammedan Mosque, formerly the Church of St. Sophia.

The Mosque of St. Sophia, Constantinople.

Adrianople, the second city of Turkey in population, is situated near the Maritza, in one of the most fertile plains in the world. Its mosques and public baths are numerous.

Salonica, at the head of the Gulf of Salonica, is, next to Constantinople, the most commercial city of European Turkey. It stands on a hill slope, and is surrounded by a lofty whitewashed wall, five miles in circuit.

MAP STUDIES.—Greece.

(See Map of "Continental Europe.")

State the situation of the following Cities and Towns, viz.:— Missolonghi, Lepanto, Livadia, Thebes, Athens, Nauplia, Monemvasia, Navarino, Patras and Corinth.

THE KINGDOM OF GREECE.

Area in sq. miles, 18,500. Population, 1,000,000. Prefectures, 10.

Geographical Position, etc.—This small kingdom lies to the south of Turkey, and embraces the remainder of the great eastward peninsula of Southern Europe. Its greatest extent from north to south, is about 200 miles.

Divisions.—The chief divisions of the kingdom, are Northern Greece, or Hellas, lying north of the Gulf of Lepanto; the Peninsula of the Morea, connected with the mainland by the Isthmus of Corinth; and various islands scattered over the greater part of the Grecian Archipelago.

Surface.—The surface is mountainous, interspersed with fine valleys, and a few plains of limited extent.

Soil, etc.—The soil is fertile in the valleys, and the climate is warm and delightful. The winter is short. In March, the olives bud, and the almonds are in blossom; and in May, the grain is reaped. Much attention is paid to the culture of the olive and the vine.

The chief productions are grains, rice, cotton, figs, dates, pomegranates, citron, oranges, &c. Bees are abundant, and the produce of honey is very great. Sheep and goats are numerous. The flesh of the goats is used for food, and their skins are made into vessels for holding wine, oil, honey, and other liquids.

Inhabitants, etc.—The inhabitants are the mixed offspring of the descendants of the ancient Greeks, and the various nations of Slavonic origin. A large proportion are shepherds.

Traveling Facilities.—These are similar to those of European Turkey. There are few roads in the interior of the country.

Manufactures and Exports.—Manufactures are few, and chiefly domestic; and the exports are mainly currants, cotton, olive-oil, valonia (a species of acorn used by tanners), drugs, and dried fruits.

Cities.—Athens, the capital, situated in a small plain, near the Gulf of Egina, is chiefly celebrated for the numerous remains of its former works of art. Of its existing antiquities, the most celebrated is the Acropolis, or citadel, which crowns the summit of a lofty hill, in the midst of the city.

It contains the remains of the ancient Parthenon, or Temple of Minerva. To the west of this is the Areopagus, or Mars' Hill, the spot from which the Apostle Paul addressed the assembled multitude of ancient Athens.

This city is also noted as having been the birth-place of the most illustrious sages, philosophers, warriors and poets of ancient times. About twenty miles to the north-east of Athens are the village and plain of Marathon, celebrated for the great victory gained by the Athenians over their Persian invaders (B. C. 490).

Patras, on the Gulf of Patras, is the principal seat of the foreign trade of Greece.

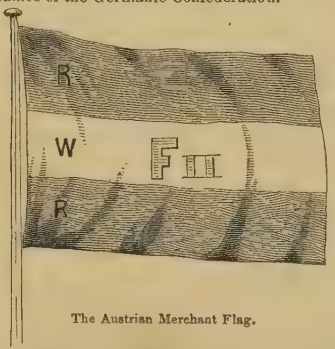
LESSON CVIII.

MAP STUDIES.—AUSTRIA.

(See Map of "Continental Europe.")

State the situation of the following Cities and Towns, viz.:—PRESSBURG, Schemnitz, Kaschau, Miskoltz, Debreczin, Temesvar, Szegedin, Theresianople, Raab, Komorn, Pesth, Buda, Ketskemet,—Cracow, LEMBERG, Brody, Tarnopol,—Clausenburg, Cronstadt, or Kronstadt, Hermanstadt,—ESSECK, Neustatz, Semlin,—AGRAM, Fiume, Spalatro, and ZARA.

REMARK.—The cities and towns of German Austria have been mentioned in the Map Studies of the Germanic Confederation.



The Austrian Merchant Flag.

THE EMPIRE OF AUSTRIA.

Area in sq. miles, 259,800. Pop., 37,850,000.
Provinces, 16.

Geographical Position.—This extensive empire, situated in Central Europe, comprises German Austria, Galicia, or Austrian Poland, Hungary, and the Provinces of Lombardy and Venice, called Austrian Italy.

GERMAN AUSTRIA includes the following provinces, viz.:—Bohemia, Silesia, Moravia, Archduchy of Austria, Styria, Illyria, and Tyrol. (See Map of the "Germanic Confederation.")

The PROVINCE OF GALICIA, in the north-east section of Austria, was formerly a part of the Kingdom of Poland.

HUNGARY, TRANSYLVANIA, SLAVONIA, CROATIA, the MILITARY FRONTIER, and DALMATIA, are comprehended under the general name of the Hungarian Countries.

AUSTRIAN ITALY, called also the LOMBARDO-VENETIAN KINGDOM, situated on the south side of the Alps, is geographically comprised within the limits of Italy, but politically forms a part of the Austrian Empire.

Surface.—The surface is considerably diversified. It is traversed by the Alps, Carpathian, and other mountain ranges. In the Hungarian countries are extensive plains and marshes.

Soil, Climate, etc.—The soil is generally good, and the climate cool and clear in the north, but moist, warm and frequently cloudy in the south. In the low parts of the empire, particularly about the Danube, the heat in summer is very great.

Grain, flax, hemp, rice, olives, vines, hops, tobacco and a great

variety of fruits, are among the chief agricultural products. Leeches are numerous in the marshy districts of the empire. In minerals, Austria ranks among the richest of the countries in Europe.

Inhabitants, etc.—The inhabitants belong to four principal families: —the German, Slavonian, Italian and Hungarian, or Magyars. Agriculture, mining and the raising of sheep form the leading pursuits.

Traveling Facilities.—Roads, commodious for traveling and commercial purposes, have been constructed across upwards of sixty of the mountain passes of the empire. From Pavia, in Austrian Italy, an uninterrupted *macadamized* road, of more than 1,100 miles in length, leads, across mountains and rivers, to the eastern part of Galicia.

Besides these, there are numerous other highways, and several railroads which connect the capital, not only with nearly all the cities of note in Northern Germany, but with the two great seaports of the Adriatic. The Danube and its navigable tributaries form the great commercial highway of the empire.

Manufactures and Exports—Silk, wool, cotton, glass, flax and paper, are among the chief articles manufactured; but Austria is not noted as a manufacturing country. The leading exports are corn, wine, wool, minerals, timber, hides, porcelain, glass, leeches and cattle.

GERMAN AUSTRIA IN DETAIL.

THE KINGDOM OF BOHEMIA.—This kingdom, a political and administrative division of the Austrian Empire, forms a part of the Germanic Confederation. It is a fertile plain, enclosed by mountains, and contains an area of about 20,000 square miles. Bohemia is much celebrated for its glass-works, as well as for various branches of mining industry.

PRAGUE, the capital, situated on both sides of the Moldau, is, next to Vienna, the most important city in the German Provinces of Austria.

AUSTRIAN SILESIA.—This small province adjoins the Prussian one of the same name, and is divided from Moravia on the north, by the Sudetic Mountains. It contains an area of about 2,000 square miles.

MORAVIA.—This Austrian Province (having the title of margraviate) lies east of Bohemia, and west of Galicia and Hungary. It forms a part of the Germanic Confederation, and contains an area of about 10,000 square miles.

BRUNN, the capital, is situated about 90 miles (by railroad) to the north of Vienna. It is the chief seat of the woolen manufactories of Austria. This city was the head-quarters of Napoleon before the battle of Austerlitz. The town of Austerlitz, historically noted for the battle of the 2d December, 1805, lies about 14 miles to the east of Brunn.

ARCHDUCHY OF AUSTRIA.—This portion of German Austria lies on both sides of the Danube, between Bavaria and Hungary. It contains an area of about 15,000 square miles, and is divided into two parts, by the River Enns (a branch of the Danube). The eastern half is called Lower Austria, and the western, Upper Austria.

VIENNA, the capital of the Archduchy of Austria, and of the entire empire, is situated on an arm of the Danube. It is the great centre of inland commerce, and the chief manufacturing city in the empire. The city is surrounded by a wall 40 to 50 feet high, and is entered by 12 gates.

Among the public buildings of note are the Cathedral of St. Stephen, the Imperial Palace, the Custom House, and the University. Vienna is noted for its fine public walks and parks; the chief of which is the *Prater*, on an island in the Danube. It consists of a natural forest, laid out in long paths, and contains deer-parks, coffee-houses, &c. This park is crowded with pedestrians and splendid equipages on fête days. Three fairs are annually held at Vienna.

STYRIA, a province with the title of duchy, lies south of Austria Proper, or the Archduchy of Austria; and comprises within its limits an area of about 9,000 square miles. GRATZ, the capital, situated on an affluent of the Drave, is extensively engaged in the transit trade between Trieste and Vienna.

ILLYRIA.—This kingdom is situated between the Province of Styria and the Lombardo-Venetian Kingdom. It contains an area of about 10,000 square miles. Mining is a chief object of industry. LAYBACH, near the Save, is the capital. This city carries on an extensive trade between Germany and Trieste.

TRIESTE, situated in this kingdom, near the head of the Adriatic Sea, is the chief commercial city of German Austria, and the great seat of the foreign commerce of the entire empire. This city communicates with the sea by means of a canal, which enables large vessels to penetrate within the very heart of the city. Ship-building is here carried on to a great extent.

TYROL.—This province of German Austria, styled an earldom, lies east of Switzerland, and embraces a territory of about 11,000 square miles.

It is a pastoral county, and the chief wealth of the inhabitants is in their cattle and other live-stock. In many parts of the valley of the Inn, canary birds are extensively reared, and exported to various parts of Europe. INNSPRUCK, on the Inn, is the capital of the Earldom of Tyrol.

LESSON CIX.

THE AUSTRIAN EMPIRE.—(*Continued*).

AUSTRIAN POLAND, OR THE KINGDOM OF GALICIA, lies on the north slope of the Carpathian Mountains, in the northern part of the Austrian Empire. It contains an area of about 34,000 square miles. The inhabitants pay great attention to the rearing of

cattle and other live-stock. Galicia and Hungary are noted as being the two principal corn-growing provinces of the empire.

Lemberg, the capital of Galicia, on a branch of the Dniester, is noted for its January Fair, which lasts six weeks. Large quantities of furs are here brought by the Russians from Siberia and Tartary, and exchanged for the hardware, and woolen and cotton goods of Austria.

HUNGARY.—As has before been stated, there are six provinces which are included under the name of the Hungarian Countries. These form a total area of 127,000 square miles, and embrace a population of about 14,000,000.

Hungary Proper, or the Kingdom of Hungary, however, contains but a little more than two-thirds of the total area of the Hungarian Countries.

Surface.—The physical surface of Hungary presents very diversified regions and climates. The north-west, north and north-east parts are traversed by the Carpathian Mountains, between which, and the east and south-east, extends a vast plain, containing an area of about 20,000 square miles. In this region there are extensive marshes.

Soil, etc.—In the valleys of the north, snow falls as early as September, and seldom disappears before the middle of June, while in the south districts it is so mild that the finest species of grapes which Europe possesses, thrive well.

With the exception of France, Hungary produces a greater quantity of wine than any other country in Europe. Tobacco is extensively grown in various parts of the kingdom, and forms an important article of export. Hungary is noted for its breed of horses, and for its immense numbers of swine and black cattle. The salt mines are very productive.

Inhabitants, etc.—The inhabitants belong to several distinct families, speaking different languages. The Hungarians, or Magyars, are the ruling nation, though they number only about one-third the total population of the Hungarian Countries. The chief objects of industry are agriculture, cattle rearing, and mining.

*Pressburg, the legislative capital of Hungary, is situated on the north bank of the Danube, about 35 miles below Vienna.

Pesth, the chief commercial city of Hungary, is situated on the left or eastern bank of the Danube. It communicates by a handsome

* Until 1784 Pressburg was the capital of Hungary, but since that time Buda has ranked as such. Notwithstanding this, the Legislative Assembly still meets at Pressburg, and on this account, it is styled the Legislative Capital.

suspension bridge with Buda on the opposite bank of the river. The latter city ranks as the capital of Hungary.

CRONSTADT, or Kronstadt, in the south-east part of Transylvania, is the most industrious manufacturing and commercial town in the province. The articles here manufactured, supply the peasantry of Wallachia and Moldavia.

THE HUNGARIAN COUNTRIES IN DETAIL.

TRANSYLVANIA, the most south-eastern province of the Austrian Empire, lies between Hungary Proper (or, as it is sometimes called, Provincial Hungary) and the Principality of Wallachia.

It contains an area of about 20,000 square miles. Its surface is chiefly a table-land, sloping toward the west. The banks of the rivers are densely wooded, whence the name of the province, which signifies a forest region.

Mineral produce forms the chief source of wealth. Rock salt is exceedingly abundant; a vast bed of which, extends from Wallachia through Transylvania to Galicia. It covers a space of about 500 miles in length by 70 in breadth. There are also several gold mines in different parts of the province, which are chiefly wrought by gypsies.

Transylvania is inhabited by three distinct nations; viz., Magyars, Szeklers and Saxons. With these, there are intermixed a number of Poles, Gypsies, Jews, Greeks, Armenians, &c. CLAUSENBURG, the capital, is situated on the Szamos—a branch of the Theiss.

SLAVONIA.—This kingdom, a frontier province of the Austrian Empire, lies chiefly between the rivers Save and Drave, and contains an area of 3,650 square miles.

CROATIA.—This province, together with Slavonia, forming one kingdom, extends from Provincial Hungary to the borders of the Adriatic Sea. The entire kingdom is chiefly inhabited by Slavonians. AGRAM, the capital of the kingdom, is the residence of the Governor, and the seat of the superior courts of the two provinces. Area of Croatia is about 3,600 square miles.

THE MILITARY FRONTIER is a strip of country comprising an area of about 18,000 square miles, and extends along the Turkish frontier from the Adriatic Sea eastward to Moldavia. It consists of parts of Croatia, Slavonia, Provincial Hungary and Transylvania. All landed property in this district belongs exclusively to the government, but is held by a kind of military fief, on condition of military service in peace and war.

DALMATIA.—This kingdom embraces a strip of country extending along the Adriatic Sea. The area, including islands, is 5,800 square miles.

ZARA, the capital, on the Adriatic, is noted for its cathedral. The coasting trade and the fisheries employ a great part of the inhabitants.

Genoa, Italy.

LESSON CX.

MAP STUDIES.—The Italian States.

(See Map of "Continental Europe.")

Describe the following Cities and Towns:—Chambery, Turin, Genoa, Nice,—Vicenza, Udine, Venice, Padua, Verona, Mantua, Milan,—Bologna, San Marino, Ancona, Rome, Perugia,—Chieti, Foggia, Bari, Otranto, Taranto, Catanzaro, Reggio, Policastro, Salerno, Naples, Capua,—Pisa, Florence, Sienna, Leghorn,—Modena, and Parma.

ITALY, or THE ITALIAN STATES.

Area in sq. miles, 119,700. Population, 24,000,000.

Geographical Position, etc.—Italy occupies the great central peninsula of Southern Europe, and comprises several states, of which the principal are:—the Kingdom of Sardinia in the north-west; the Lombardo-Venetian Kingdom between the Alps and the River Po (which politically forms a part of the Austrian Empire); the States of the Church which stretch in a curved direction across the peninsula, from the mouth of the Po, to the middle of the western coast; the Kingdom of the Two Sicilies, which comprehends all the southern

part of the peninsula, together with the Island of Sicily and the Lipari Isles; the Grand Duchy of Tuscany, which lies along the northern part of the west coast; and the two Duchies of Modena and Parma, lying between Tuscany and Sardinia.

Surface.—It is generally mountainous, though there are some level districts in the north and west.

Soil, etc.—The soil is remarkable for its fertility, and the climate is warm and delightful. Wheat, corn, rice, cotton, silk, olives, and a great variety of fruits, are among the agricultural products. In the south the sugar-cane, orange and fig are cultivated. Iron, lead, alabaster, lava and marble are found in considerable quantities. Sponges and corals are furnished along the coasts of Sicily. The Neapolitan provinces are noted for their grapes and other fruits.

Inhabitants, etc.—The Italians, like the Greeks, are not one of the primitive tribes of Europe; but are a mixed race, descendants of Greeks, Germans, Gauls, etc. Agriculture forms the leading pursuit.

Traveling Facilities.—In Sardinia, Austrian Italy, and Tuscany, the roads are generally good; but in Central and Southern Italy they are very defective.

In the north there are numerous passes over the Alps, by which communication is carried on with France, Switzerland, and Germany. Mules are generally used for purposes of transport, over these and the other mountain roads of Italy. The principal cities in the north are connected by railroads.

Manufactures and Exports.—Italy is not generally a manufacturing country. Silk, however, is extensively manufactured; and straw-hats, artificial flowers, and musical instruments, are among the other leading articles fabricated.

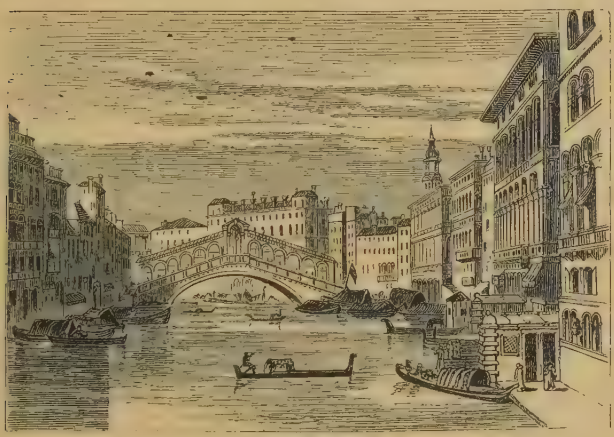
The chief exports are raw silk, kid and lamb skins, olive-oil, straw-hats, wines, fruits, coral, anchovies, cheese, and perfumery. The raw silk is chiefly supplied to France and England, the oil, fruits, and other Italian produce to Great Britain, Germany, Holland, and other European Countries, and also the United States.

THE KINGDOM OF SARDINIA.—This kingdom embraces several states or provinces, viz.:—Piedmont, which extends from the crest of the Alps and the Apennines, to the borders of Austrian Italy; Genoa and Nice, two small provinces which border on the Mediterranean, south of Piedmont; Savoy, situated beyond the Alps; and the Island of Sardinia, in the Mediterranean.

Cities.—Turin, the capital of the Kingdom of Sardinia, is situated

in a delightful valley on the left side of the River Po. It ranks first among the cities of Italy, in the number and importance of its scientific and literary institutions.

Genoa, the capital of the Duchy of Genoa, is situated near the head of the gulf of the same name. It is the chief seaport and naval arsenal of the Sardinian Kingdom.



The Rialto, Venice.

LESSON CXI.

THE ITALIAN STATES.—(*Continued.*)

AUSTRIAN ITALY.—The Austrian portion of Italy, called the Lombardo-Venetian Kingdom, is divided into the two governments of Lombardy and Venice.

Milan, the capital of Austrian Italy, lies in the midst of the plain of Lombardy, on a branch of the Po. It is noted for its cathedral, one of the grandest specimens of architecture extant; and for its being the largest book-mart in Italy.

Venice, a strongly fortified and important maritime city of Austrian Italy, is built on 72 small islands, which are joined together by 306 bridges. These islands lie in the midst of extensive lagunes which are partially separated from the sea by a narrow strip of firm sand.

The chief thoroughfares are canals, of which there are 149; and the communication between different parts of the city is almost universally carried on by means of small, light boats, called gondolas.

The Canal Grande, which separates the city into two nearly equal portions, is spanned by the bridge of the Rialto.

THE STATES OF THE CHURCH, OR THE PAPAL DOMINIONS.—The territory forming these states, occupies the central part of the Italian Peninsula.

ROME, the capital, lies on both sides of the Tiber, about 16 miles above its mouth. It is the residence of the Pope, and is noted for the number and splendor of its churches. St. Peter's Cathedral is the most magnificent ecclesiastical structure in the world. It covers nearly five acres. Adjacent to it is the Vatican, a palace belonging to the Pope. It is an immense building, having more than 4,000 apartments.

SAN MARINO is a small republic, about 10 miles in circuit. It is surrounded by the States of the Church, or Papal Dominions, under whose protection it is placed.

THE KINGDOM OF NAPLES AND SICILY, OR THE KINGDOM OF THE TWO SICILIES, comprises the southern part of the Italian Peninsula, the Island of Sicily, and the Lipari Isles.

NAPLES, the capital of the kingdom, situated on the north-west side of a bay of the same name, is the most populous city in Italy. In the vicinity of this city are many places of interest.

THE GRAND DUCHY OF TUSCANY.—This small but fertile state lies along the Mediterranean coast, north of the Papal Dominions.

FLORENCE, the capital, is located in a delightful valley, on both sides of the River Arno. It is celebrated for its splendid collections of works of art, both in sculpture and painting.

LEGHORN, on the coast of the Mediterranean, is the principal seaport of Italian commerce. Ship-building is extensively carried on.

The relative extent and population of the Italian States are as follows, viz.:—

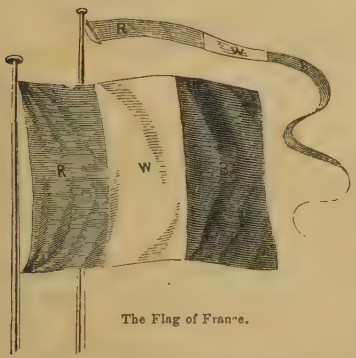
	Area in sq. miles.	Population.
The Kingdom of Sardinia,	29,000	5,000,000
The Lombardo-Venetian Kingdom,	17,550	5,000,000
The States of the Church, or the Pontifical States,	17,800	2,900,000
The Kingdom of the Two Sicilies,	42,000	8,700,000
The Grand Duchy of Tuscany,	8,550	1,780,000
The Duchy of Modena,	2,300	586,000
The Duchy of Parma,	2,270	503,000
The Republic of San Marino,	22	8,000

LESSON CXII.

MAP STUDIES.—France.

(See Map of "Continental Europe.")

State the situation of the following Cities and Towns, viz.:—St. Malo, Cherbourg, Caen, Alençon, Le Mans, Chartres, Versailles, Paris, Rouen, Le Havre, Dieppe, Amiens, Boulogne, Calais, Lille, Valenciennes, Rheims, Chalons, Metz, Nancy, Strasburg, Troyes, Dijon, Lyons, St. Etienne, Grenoble, Valence, Avignon, Marseilles, Toulon, Nismes, Montpelier, Narbonne, Toulouse, Cahors, Bayonne, Bordeaux, Angouleme, Limoges, La Rochelle, Poitiers, Nantes, L'Orient, Brest, Rennes, Tours, Blois, Orleans, Bourges, Moulins, and Clermont.



The Flag of France.

THE EMPIRE OF FRANCE.

Area in sq. miles, 204,800. Pop., 35,400,000. Departments, 86.

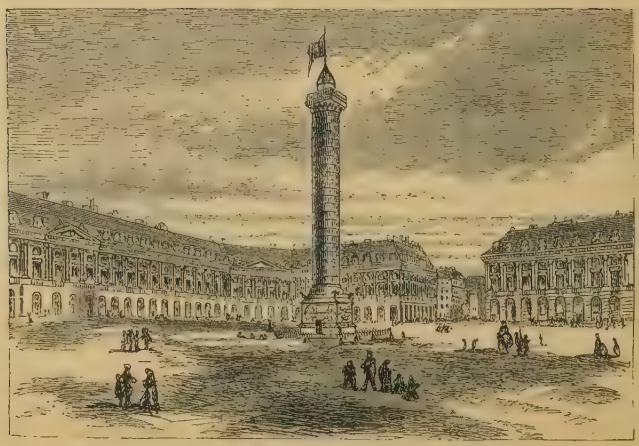
Geographical Position.—France, an important empire of Western Europe, extends from the English Channel on the north, to the Mediterranean Sea on the south, and from the western frontiers of Germany, Switzerland and Italy, to the waters of the Atlantic Ocean.

Surface.—It is mountainous in the south-eastern and southern portions, and level, or undulating, in the north and north-west.

Soil, etc.—The soil is exceedingly fertile, and the climate mild and agreeable. In the south it is much warmer than in the north.

Grain is generally grown on the higher grounds; but maize is every where general. Madder, from which a dye is obtained, is cultivated in some districts. Among vegetables, the beet-root, from which sugar is obtained, is extensively raised. Silk, wool, wines, olive-oil, and a great variety of fruits, are among the most important products.

The forests furnish excellent timber for ship-building and carpentering. Bees and the silk-worm are extensively reared in the south of France. The chief minerals are iron, coal and salt.



The Column of Austerlitz, Place Vendome, Paris.

Inhabitants, etc.—France is mainly inhabited by a mixed race, in which the Celtic predominates. In the parts bordering on the Rhine, the people are mostly of the Germanic race. More than one-half the inhabitants are engaged in agricultural pursuits, of which the cultivation of the vine forms an important feature.

Traveling Facilities.—The high-roads are numerous and good. The principal lines of railways connect Paris with the most important towns on the English Channel and with those on the Belgian frontier. There are also railroads which connect some of the cities in the interior with the capital.

The navigable rivers and canals afford facilities of communication for a distance of about 8,000 miles. By means of railroads, and steam-navigation, the journey between Paris and London (a direct distance of 215 miles) is effected in ten hours.

Manufactures and Exports.—In the extent and variety of her manufactures, France ranks second only to Great Britain; but in the excellence and beauty of her silk fabrics, she holds the first rank in the world. Among the other leading manufactures are woolens, linens, laces, hardware, cotton fabrics, paper, gloves, wine, brandy, and a great variety of fancy articles. These form the chief articles of export. Commerce, both external and internal, is extensively carried on.

Cities.—Paris, the capital, lies on both banks, and on two islands of the Seine, 111 miles above its mouth.

It extends for about 5 miles along the river, which is here crossed by upwards of twenty bridges. The city is surrounded by walls, entered by gates or *barrières*. The public structures of the city are numerous and magnificent. Of the religious edifices, the Cathedral of Notre Dame is the most celebrated. It is situated on one of the islands in the Seine, called "Isle de la Cité."

The Champs Elysées, a favorite place of resort, is a sort of public promenade or park lined with trees. The public fêtes all take place here; and even on ordinary occasions, various attractions such as shows, panoramas, circuses, music, etc., are to be met with here. Paris is noted for its National Library, containing the largest and most valuable collections in existence.

It is the second city in Europe in population, and in reference to its scientific, literary and educational establishments, it surpasses all the other cities of the world. Twelve miles west of Paris, is Versailles, noted for its magnificent palace.

Le Havre, at the mouth of the Seine, is an important commercial city of France. It communicates regularly by steam-packets with New York, and also with various ports of Europe.

Calais, a fortified seaport town, on the Strait of Dover, owes its importance chiefly to its being the French port nearest to England.

Strasburg, or Strasbourg, a strongly fortified city, is situated on the Ill near the Rhine. It carries on an extensive transit trade. Steamers ply between this city and Basle, Rotterdam, and London. It is celebrated for its cathedral.

Lyons, at the junction of the Rhone and the Saone, is the second city in France in commercial importance, and the chief seat of the manufactures of silks, velvets, etc.

Marseilles, on the east side of the Gulf of Lyons, is extensively engaged in the trade of wines and fruits; and, in short, is the great outlet for all the natural and artificial productions of Southern France.

It is also the continental port at which a large portion of the East India despatches for England, and various countries of Continental Europe, is received.

Nantes, on the right bank of the Loire, carries on considerable trade with Northern Germany, Sweden, Denmark and Russia. The vessels come freighted with hemp, tallow, &c., and carry back the wines and brandies of France.

Bordeaux, France.

Bordeaux, on the left bank of the Garonne, is the great emporium of the wine trade, and the chief commercial port on the Bay of Biscay.

Paris, Rouen, Dieppe, Lille, Valenciennes, Amiens, Rheims, Metz, Strasburg, Lyons, Grenoble, Avignon, Marseilles, Nismes, Bordeaux, Nantes, Alençon, Tours, Blois, and St. Etienne are noted manufacturing places.

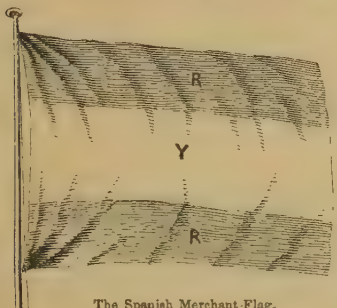
The chief naval stations and dockyards of France are at Cherbourg, Toulon, L'Orient and Brest. The principal ports for foreign trade are St. Malo, Le Havre, Dieppe, Boulogne,—Marseilles,—Bayonne, Bordeaux, La Rochelle, Nantes, and L'Orient.

FRENCH COLONIAL POSSESSIONS.—The foreign and colonial possessions of France are—the Territory of Algeria, in Northern Africa; the Island of Bourbon, in the Indian Ocean; St. Louis, at the mouth of the Senegal, in Western Africa; the small Islands of St. Pierre and Miquelon, in the Gulf of St. Lawrence; the Islands of St. Martin (north part), Guadeloupe, Martinique, Desirade, Mariegalante and Les Saintes, in the West Indies; a part of Guiana, in South America; Pondicherry, and a few other settlements, in Hindostan; the Marquesas Isles and the Island of Tahiti, in Polynesia; and New Caledonia, in Australasia.

LESSON CXIII.

MAP STUDIES.—SPAIN.

State the situation of the following Cities and Towns, viz. :—Santiago, Corunna, Ferrol, Leon, Santander, Burgos, Pampeluna, Logrono, Saragossa,—Andorra,—Lerida, Mataro, Barcelona, Reuss, Tortosa, Valencia, Chinchilla, Alicante, Murcia, Cartagena, Almeira, Granada, Cordova, Malaga, Gibraltar, Cadiz, Seville, Palos, Badajos, Salamanca, Zamora, Valladolid, MADRID, Toledo, and Almaden.



The Spanish Merchant Flag.

THE KINGDOM OF SPAIN.

Area in sq. miles, 183,000. Pop., 13,900,000. Provinces, 49.

Geographical Position. — This kingdom occupies the greater part of the most westerly of the three great southern peninsulas of Continental Europe.

Surface.—The interior of Spain consists of high table-lands, surrounded by mountains. In the south and south-east are plains, which slope gradually towards the Mediterranean.

Soil, etc.—The soil is generally fertile, but there are extensive waste lands. In the north, the climate is temperate. Here the apple tree flourishes, the hills are clothed with forests, and the valleys yield rich harvests of corn; but the high plateaus of the centre are destitute of trees, and the climate is noted for its dryness. In the south, the climate is warm; and here the inhabitants cultivate the fig, the olive, the vine, and the sugar-cane. Fruits are abundant.

Inhabitants.—The Spaniards are a mixed race,—mainly composed of the Celtic, Gothic, Roman and Arabic. There are about 50,000 gypsies in different parts of Spain. Agriculture, and the rearing of sheep, form the leading pursuits; and great attention is paid to the culture of the grape.

Traveling Facilities.—Very little has been accomplished by way of overcoming the natural impediments to communication between the different parts of the kingdom. Wheel carriages are but little used, and mules furnish the chief means of transport.

The only railroads at present are, a short one leading from Barcelona, a distance of 18 miles, and another leading from Madrid to the Tagus. There are but few bridges; consequently, the rivers generally have to be forded. There are several canals, though but few that are adapted to navigation.

Manufactures and Exports.—Among the leading articles manufactured are silks, leather, fire-arms, saltpetre and gunpowder. The exports are wines, brandies, oil, fruits, wool, silk, barilla, quicksilver, lead and salt. Neither agriculture, manufactures, nor commerce, is in a flourishing condition.

Madrid, Spain.

Cities.—MADRID, the capital, is situated near the Manzanares. It is nearly 8 miles in circuit, and is surrounded by walls. The palace of the Escurial, 27 miles north-west of the city, contains the splendid mausoleums of many of the sovereigns of Spain; also, a fine collection of paintings, a large library and a college.

CORUNNA, situated on the north-west coast of Spain, is noted for its extensive manufacture of cigars. It is also the seat of the herring fisheries. Packets ply monthly between this place and Havana, and every alternate month to La Plata, and other South American States.

BARCELONA, on the Mediterranean coast, is the second city in the kingdom in population, and is also an important manufacturing and

commercial place. Many of the houses have their fronts adorned with paintings in fresco.

Malaga, on the Mediterranean coast, about 250 miles south of Madrid, is noted for its trade in the export of wines, raisins, figs, and other fruit.

Cadiz, on the Island of Leon (which is connected with Continental Spain by a bridge), is an important commercial city. The Bay of Cadiz is the grand rendezvous of the Spanish navy. Seville, on the left bank of the Guadalquivir, is noted for its trade in oranges.

Gibraltar, situated on the mainland of Spain, on the west side of a mountainous promontory, projecting into the Strait of Gibraltar, is a strongly fortified seaport town, and colony, belonging to Great Britain. It is a station for the English packets connected with the trade to India, and also for those employed in the general commerce of the Mediterranean.

SPANISH COLONIAL POSSESSIONS.—The chief of these are as follows, viz.:—a part of the Philippine Isles; the Islands of Cuba and Porto Rico, in the West Indies; and Ceuta, a fortress in Africa, on the south side of the Strait of Gibraltar.

ANDORRA.—This small independent state comprises three wild and picturesque valleys, situated on the southern side of the Central Pyrenees. Its area is about 190 square miles, and the population probably amounts to 18,000.

It is generally considered as a neutral and independent state, although it is, to a certain extent, connected with both France and Spain. It is subject to the spiritual jurisdiction of the Bishop of Urgel, in Spain, to whom it pays an annual sum of 480 francs; while it renders to France double that amount, in consideration of certain privileges which it enjoys from her protection.

LESSON CXIV.

MAP STUDIES.—Portugal.

State the situation of the following Cities and Towns, viz.:—Braga, Bragança, Almeida, Elvas, Evora, Beja, Tavira, Lagos, Sines, Setubal, Lisbon, Santarem, Coimbra, Oporto, and Lamego.

Lisbon, Portugal.

THE KINGDOM OF PORTUGAL.

Area in square miles, 3,500. Population, 3,460,000. Provinces, 7.

Geographical Position.—This small kingdom of South-western Europe occupies about one-sixth part of the Iberian Peninsula.

Surface.—It is agreeably diversified, and gradually slopes towards the Atlantic Ocean.

Soil, etc.—The soil is rich, and the climate mild and salubrious. The productions are similar to those of Spain. The vine is especially characteristic of the northern provinces, as are the olive, orange, citron, and other fruits, of the southern. Iron-ore is abundant; and this country (like Spain) abounds in beautiful marbles and building stones.

Inhabitants, etc.—The inhabitants are of the same lineage as those of Spain. Agriculture is in a backward state. The making of wine forms the chief branch of industry.

Traveling Facilities.—These are poor. There are no canals or railroads at present in the kingdom; and the navigation of the rivers is sometimes impeded by droughts.

Manufactures and Exports.—Manufactures are not extensive. The exports are mainly wines, salt, cork, drugs, and various kinds of fruits.

Cities.—Lisbon, the capital, on the right bank of the Tagus, is an important commercial city of Portugal.

Oporto, the second city in commercial importance, lies on the north bank of the Douro. It is noted for its trade in port wine. A fine suspension bridge connects the city with the suburbs of *Villa Nova de Caya*, on the opposite side of the river, where are immense vaults, in which the wine is chiefly kept until it is stored.

Coimbra, situated on the high road from Lisbon to Oporto, about 120 miles distant from the former, is noted for its University—the only one in Portugal.

PORTUGUESE COLONIAL POSSESSIONS.—Portugal possesses the Azores, Madeira, and Cape Verde Isles; some small settlements on the coast of Senegambia, in Africa, together with Angola and Mozambique; three small islands in the Gulf of Guinea; and a few small settlements in the East Indies.

MAP STUDIES.—Belgium.

State the situation of the following Cities and Towns, viz.:—Ostend, Bruges, Ghent, Antwerp, Mechlin, Liege, Namur, Mons and Brussels.

THE KINGDOM OF BELGIUM.

Area in sq. miles, 11,400. Population, 4,350,000. Provinces, 9.

Geographical Position.—This small kingdom of Western Europe lies between France and Holland.

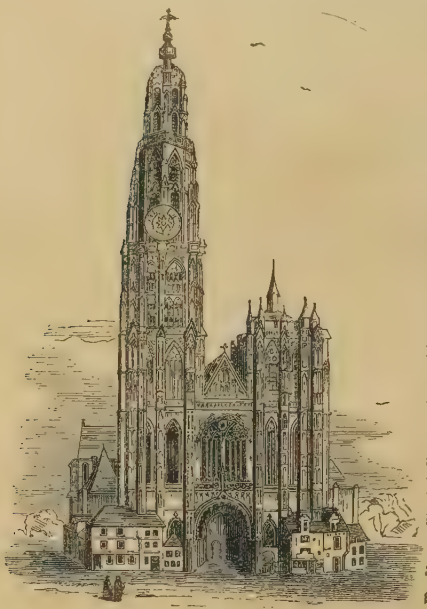
Surface.—It is mostly level, and belongs to the great European plain, which extends from North-western France eastward to the Uralian Mountains. The coasts are low, requiring dykes to protect them from the sea. There are no lakes, but the country throughout is well watered.

Soil, etc.—The soil is not naturally fertile, but the industry and skill of the inhabitants have rendered it very productive. That untiring industry which will not suffer a weed to grow while it can be eradicated, and turns every little patch of garden, or orchard-ground, to active profit, is nowhere else seen to such advantage as in Belgium.

The climate is cool and moist, and the chief products are grain, hemp, flax, hops, beet-root, chiccory, clover, and tobacco. Coal and iron are abundant.

Inhabitants, etc.—The Belgians are, in part, Flemings, of German origin; and, in part, Walloons, descendants of the ancient Belgæ. Agriculture, commerce and manufactures form the leading pursuits. Great attention is paid to horticulture.

Traveling Facilities.—Belgium enjoys the advantage of having excellent roads, and numerous canals and railroads.



Antwerp Cathedral, Belgium.

Manufactures and Exports.—Manufactures are varied and extensive, and form the chief source of wealth to the inhabitants. The exports are agricultural products, and a great variety of manufactured goods,—such as laces, fine linens, paper, hardware, etc.

Cities.—BRUSSELS, the capital, situated on the Senne (a branch of the Scheldt), is celebrated for its lace, considered the finest in the world, and for its manufacture of carriages, which are said to surpass those of London and Paris in elegance and solidity.

The business of printing and publishing is extensively carried on in this city. About 10 miles to the south of Brussels is the field of Waterloo, memorable for the great battle fought there in 1815.

OSTEND, on the coast of the North Sea, is an important seaport of Belgium. It has regular steam communication with London and Dover, and is connected by numerous lines of railway with the principal cities of Central and Western Europe.

ANTWERP, on the right bank of the Scheldt, carries on an extensive trade. The river is navigable for large vessels up to the quay of the city. LIEGE, on the left bank of the Meuse, in the vicinity of the coal mines, is the chief seat of the iron-works of Belgium.

LESSON CXV.

MAP STUDIES.—Holland.

State the situation of the following Cities and Towns, viz.:—Leeuwarden, Groningen, Arnheim, Rotterdam, The Hague, Haarlem, Amsterdam and Utrecht.

The Flag of Holland.

THE KINGDOM OF HOLLAND.

Area in sq. miles, 13,000. Pop., 3,000,000. Provinces, 12.

Geographical Position. — Holland, or the Kingdom of the Netherlands, lies north of Belgium, and west of Germany and Prussia.

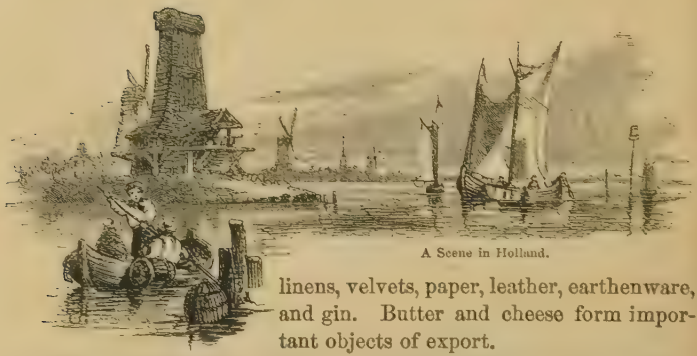
Surface.—It is low and flat, intersected by numerous canals; and being below the level of high sea-tides, is either protected by sand-banks, thrown up by the sea, or by artificial dykes, which are constructed chiefly of earth and clay, and usually protected in the more exposed parts by a facing of wicker-work formed of willows interlaced together.

Soil, etc.—The soil, particularly in the south, is fertile, and the climate mild and humid. The winters, however, are generally severe. The productions are similar to those of Belgium. Cattle are numerous, and of a large size. Dairy-husbandry is brought to great perfection, and immense quantities of butter and cheese are made.

Inhabitants, etc.—The inhabitants are chiefly Dutch, and belong to the German stock. There are, also, numerous Jews in the kingdom. More attention is paid to the rearing of live-stock, and to the produce of the dairy, than to tillage. Windmills are much used for motive power.

Traveling Facilities.—The internal trade is carried on mainly by means of canals, which in Holland serve the purposes of roads elsewhere. They run through the principal streets of the cities, and extend a complete network over the entire surface of the kingdom. There are also some railroads, which connect the cities of Rotterdam, Haarlem, Amsterdam, Utrecht and Arnheim.

Manufactures and Exports.—Among the leading manufactures are



A Scene in Holland.

linens, velvets, paper, leather, earthenware, and gin. Butter and cheese form important objects of export.

Cities.—The Hague, the capital of Holland, situated about three miles from the North Sea, is one of the handsomest, and best built cities on the Continent.

Rotterdam, on the north bank of the Meuse, is the second city in the kingdom, in size and commercial importance. By means of canals (which are crossed by drawbridges), the largest vessels can come up to the warehouses in the heart of the city. In general, each species of merchandise has its appropriate canal and quay.

Haarlem, situated 11 miles west of Amsterdam, and 3 from the North Sea, is noted for the cathedral of St. Baron, which contains one of the largest organs in the world.

Amsterdam, the largest city and chief commercial emporium of Holland, is situated at the confluence of the Amstel, and a branch of the Zuider Zee, called the Het Y. It is built on piles driven to a depth of 40 or 50 feet, and is intersected by numerous canals. These form a hundred little islands, which are connected, and braced together, as it were, into one city, by means of nearly 300 bridges.

DUTCH COLONIAL POSSESSIONS.—The foreign possessions of Holland are Java, parts of Sumatra, Borneo and Celebes, with Amboyna, and several of the small islands of the East Indies, in Oceania; some ports on the coast of Guinea, in Africa; a part of Guiana, in South America; and several islands in the West Indies, comprising St. Martin (south part), St. Eustatius, Buen Ayre, Curaçoa and Oruba.

GERMANY.

LESSON CXVI.

MAP STUDIES.—Systematically Arranged.

(See Map of "The Germanic Confederation.")

Mention the boundaries of the following States, and their respective titles, viz.:—

Name of the State.	Title.
Oldenburg,	*Grand Duchy.*
Hanover,	*Kingdom.*
Mecklenburg Schwerin,	*Grand Duchy.*
" Strelitz,	"
Brunswick,	*Duchy.*
Anhalt Bernburg,	"
" Dessau,	"
Saxony,	*Kingdom.*
Schwarzburg Sondershausen,	*Principality.*
" Rudolstadt,	"
Saxe Altenburg,	*Duchy.*
" Weimar,	"
" Coburg-Gotha,	"
" Meiningen,	"
Reuss Greitz,	*Principality.*
" Schleitz,	"
Bavaria,	*Kingdom.*
Liechtenstein,	*Principality.*
Wirtemberg,	*Kingdom.*
Hohenzollern Sigmaringen,	*Principality.*
" Hechingen,	"
Baden,	*Grand Duchy.*
Hesse Darmstadt,	"
Hesse Cassel,	*Electorate.*
" Homburg,	*Landgraviate.*
Nassau,	*Duchy.*
Waldeck,	*Principality.*
Lippe Detmold,	"
Schaumburg Lippe,	"
Bremen,	*Free City.*
Hamburg,	"
Lubeck,	"
Frankfort,	"

LESSON CXVII.

MAP STUDIES.—(*Continued.*)

State the situation of the following Capital Cities, viz.:—Oldenburg, Hanover, Schwerin, Strelitz, Brunswick, Bernburg, Dessau, Dresden, Sondershausen, Rudolstadt, Altenburg, Weimar, Coburg, Meiningen, Greitz, Schleitz, Munich, Liechtenstein, Stuttgard, Sigmaringen, Hechingen, Carlsruhe, Darmstadt, Cassel, Homburg, Wiesbaden, Corbach, Detmold, Buckeburg, Bremen, Hamburg, Lubeck, and Frankfort.

PART II.

State the situation of the following Cities and Towns of the States of Germany Proper, viz.:—Emden,—Cuxhaven,—Bremenvorde, Lu-

neburg, Celle, Osnaburg, Gottingen,—Rostock,—Leipsic, Chemnitz, —Wurzburg, Bamberg, Bayreuth, Ratisbon, Passau, Landshut, Hohenlinden, Lindau, Augsburg, Anspach, Nuremburg, Ingolstadt,—Spire, Landau,—Ulm,—Manheim, Heidelberg, Baden, Freyburg,—Worms, and Mayence.

PART III.

State the situation of the following Cities and Towns of German Prussia, viz.:—(*In East Prussia*), Stralsund, Colberg, Stargard, STETTIN,—New Ruppin, Prenzlow, Kustrin, Landsberg, Frankfort, Guben, Potsdam, Brandenburg,—Glogau, BRESLAU, Oppeln, Gorlitz, Leignitz,—MAGDEBURG, Erfurth;—(*In West Prussia*), MUNSTER,—Dusseldorf, Elberfeld, COLOGNE, Coblentz, and Aix la Chapelle.

LESSON CXVIII.

MAP STUDIES—(*Continued*).

State the situation of the following Cities and Towns in German Austria, viz.:—Toplitz, Reichenberg, Koniggratz, Kuttenberg, Budweis, Pilsen, Eger, PRAGUE,—Troppau,—Olmutz, BRUNN,—Lintz, Glocknitz, Salzburg,— GRATZ,—Klagenfurt, LAYBACH, Trieste,—Innspruck, Botzen, and Trent.

Describe the following Mountain Ranges, viz.:—Riesengebirge, Moravian, Noric Alps, Styrian Alps, Julian Alps, Carnic Alps, Rhetian Alps, Bavarian Alps, Black Forest, Hartz, Thuringian, Erzgebirge, and Bohmerwald.

PART II.

State in what Range are the following Mountain Peaks, viz.:—Gross Glockner and Ortler Spitz.

Describe the following Gulfs, viz.:—Lubeck and Venice.

Describe the following Lakes, viz.:—Schwerin and Constance.

Describe the following Rivers, viz.:—* Rhine, Neckar, Main, Regnitz, Pegnitz, Rednitz, Lahn, Ruhr, Lippe, Moselle,—Ems, Weser, Fulda, Werra, Leine, Hunte, Elbe, Havel, Spree, Moldau, Beraun, Eger, Mulda, Saal,—Trave, Storr, Oder, † Wartha, Neisse,—† Danube, Naab, Lech, Isar, Inn, Mur, † Drave, and † Save.

* For a description of the Rhine, see page 194.

† Rivers thus marked can be better described by consulting the Map of Western &c. Continental Europe.

LESSON CXIX.

GERMANY.

Area in sq. miles, 245,000. Population, 42,000,000.

Geographical Position, etc.—This extensive country occupies a large portion of Central Europe. It does not form one government, but is composed of numerous independent states, and parts of states, united by a league, called the GERMANIC CONFEDERATION.

This Confederation comprises one-third part of Austria; nearly all of Prussia; a part of Denmark (consisting of the Duchies of Holstein and Lauenburg); and the Duchy of Luxemburg (belonging partly to Holland and partly to Belgium); besides twenty-nine independent states and four free cities.

The general government of the Confederation consists of an assembly called the Diet, composed of representatives from the several states. These representatives, or plenipotentiaries, meet at Frankfort. Each state exercises a sovereign and independent power over its own territory, and has its own capital city.

The general business of the Diet has been to provide for the security of the Confederation, and to arrange certain matters relating to the states as a whole, —such as the declaration of war, the formation of treaties, etc.

Within the last few years, however, many changes have occurred in the political relations of the various states, and the general government of the Confederation is, at present, in an unsettled condition.

Each state is bound to furnish its quota of men for the general army of the Confederation. The Emperor of Austria is the President of the Germanic Diet.

The character of the governments in these numerous states, varies considerably, but most of them are Constitutional monarchies, in which the power is divided between the sovereign and a legislative chamber; and in some there are two chambers, forming an upper and a lower house.

The states of the Confederation belonging respectively to Denmark, Prussia, Austria, Belgium, and Holland, will be mentioned in the description of these countries.

GERMANY PROPER.

Area in square miles, 90,000. Population, 16,000,000.

Boundaries of Germany Proper.—This part of the German Empire is bounded on the north by the North Sea, the German states of Denmark, and the Baltic Sea, on the east by the German states of Prussia and Austria, on the south by Switzerland, and on the west by France, and the German states of Western Prussia and Holland.

States.—The states of Germany Proper are Oldenburg, Hanover,

Mecklenburg Schwerin and Strelitz, Brunswick, the Duchies of Anhalt, the Principalities of Schwarzburg, the Saxon Duchies, the Reuss Principalities, Bavaria, Liechtenstein, Wirtemberg, the *Principalities of Hohenzollern, Baden, the Hessian States, Nassau, the Principalities of Waldeck, Lippe Detmold, and Schaumburg Lippe, and four free cities, viz.:—Bremen, Hamburg, Lubeck, and Frankfort.

LESSON CXX.

THE GERMAN STATES IN DETAIL.

THE GRAND DUCHY OF OLDENBURG.—This small state is nearly surrounded by the Kingdom of Hanover. The chief industrial pursuits of the inhabitants are tillage, grazing, and fishing.

OLDENBURG, the capital, situated on the River Hunte, is noted as being the residence of the Grand Duke.

THE KINGDOM OF HANOVER.—Hanover comprises various portions of territory lying chiefly in the northern part of Germany.

The greater part of this kingdom is an immense plain, sloping from south-east to north-west. Nearly one-fifth of the arable land is used for pasturage. Mining forms an important branch of industry.

HANOVER, the capital, located on the Leine River, carries on considerable trade with Bremen.

MECKLENBURG comprises the Grand Duchies of Mecklenburg Schwerin and Strelitz. It consists of a sandy plain, interspersed with forests and lakes.

THE DUCHY OF BRUNSWICK.—This state of Northern Germany consists of five isolated portions of territory; the most important of which are shown on the Map of the Germanic Confederation. A large portion of Brunswick is forest land.

BRUNSWICK, the capital, is noted for its semi-annual fairs, which are crowded with strangers from the neighboring cities.

THE KINGDOM OF SAXONY.—This kingdom lies between Bohemia on the south, and the Prussian provinces of Saxony and Silesia on the north. The rearing of cattle forms an important branch of industry; and immense flocks of sheep are raised, the wool of which is extensively exported. Mining occupies a large portion of the inhabitants, there being upwards of 500 mines in active operation in the mountainous sections of this kingdom.

DRESDEN, the capital of the Kingdom of Saxony, lies on both banks of the Elbe. It is noted for its china and porcelain ware, its gallery of paintings, and the beauty of its environs.

* The Principalities of Hohenzollern Sigmaringen and Hechingen, belong to Prussia.

Dresden

Leipsic, a city of Saxony, is celebrated as being the grand emporium of the book trade of Germany, and also for its three annual fairs.

THE DUCHIES OF ANHALT.—These three contiguous duchies are situated along the Elbe, and are almost wholly surrounded by Prussian Saxony. They rank among the most fertile of the states of Germany, and are much noted for their excellent breed of cattle and sheep.

Dessau and Bernburg are independent states, but Anhalt Gothen, in 1847 devolved to these two states in common.

PRINCIPALITIES OF SCHWARZBURG.—These comprise two detached sections about 25 miles apart. Schwarzburg Sondershausen is surrounded by Prussian Saxony, and Schwarzburg Rudolstadt lies north of Saxe Weimar.

THE SAXON DUCHIES.—These comprise the duchies of Saxe-Altenburg, Weimar, Coburg-Gotha, and Meiningen. They lie between Prussian Saxony on the north, and the Kingdom of Bavaria on the south. Saxe-Coburg-Gotha is composed of two principal portions, one north, and the other south, of Saxe-Meiningen.

THE REUSS PRINCIPALITIES.—These two principalities, situated on the north-east frontier of Bavaria, belong, the one to an *Elder*, the other to a *Younger line* of the princely house of Reuss.

THE KINGDOM OF BAVARIA.—This kingdom comprises two districts of unequal size; the larger of these lying mainly between Wirtemberg on the west and German Austria on the east, and the smaller on the left, or west, bank of the River Rhine, adjoining France on the south. In many of the valleys, the vine is successfully cultivated. Wood is a staple production, the extent of forest land being over 6,000,000 acres.

One of the most important articles of export is wood, which is floated down the rivers and conveyed by the Danube to Hungary. The chief branch of manufacturing industry is the brewing of beer. Rhenish Bavaria (west of the Rhine) produces excellent wines.

MUNICH, the capital of Bavaria, situated on the Isar, is noted for its fine collection of paintings, its numerous scientific and literary institutions, and its mathematical and optical instruments.

NUREMBURG, a city of Bavaria, lies on both sides of the River Pegnitz, about 100 miles from Munich. It is celebrated for the manufacture of musical and mathematical instruments, wooden clocks, and toys of various kinds.

AUGSBURG, on the Lech, is noted for its trade in wines, and as being the seat of the banking and exchange operations between it and Southern Europe.

LESSON CXXI.

THE GERMAN STATES IN DETAIL—(*Continued*).

THE PRINCIPALITY OF LIECHTENSTEIN.—This small state of Southern Germany, lies east of Switzerland, and west of the Earldom of Tyrol. LIECHTENSTEIN, the capital, is a small market town, situated on the Rhine.

THE KINGDOM OF WIRTEMBERG.—This kingdom of Southern Germany is about one-fourth the size of Bavaria. It lies between Baden and Bavaria and is surrounded by them, except on the south, where it borders on Lake Constance.

Wirtemberg is highly celebrated for the abundance and excellence of its fruit,—such as apples, pears, cherries, etc., and for its numerous mineral springs. It is also noted for its educational institutions.

STUTTGARD, the capital, located on a branch of the Neckar, is distinguished for its Royal Palace, Opera House, and Royal Library.

THE PRINCIPALITIES OF HOHENZOLLERN.—These two states of Southern Germany are surrounded by Baden and Wirtemberg. They belong to Prussia.

THE GRAND DUCHY OF BADEN.—This duchy lies along the north and east banks of the Rhine. Agriculture is the chief source of wealth to the inhabitants. The productions are similar to those of Wirtemberg. The principal articles manufactured are clocks, hardware, jewelry, musical boxes, and organs.

CARLESRUHE, the capital, is situated about four miles east of the Rhine. The plan of this city is very singular, being in the form of an outspread fan, around the Grand Duke's palace, from which, as from a centre, the principal streets radiate. About 20 miles from this place is the small town of Baden, one of the most frequented watering places in Germany.

MANHEIM, on the Neckar, at its junction with the Rhine, is the chief commercial town in the Grand Duchy of Baden.

THE HESSIAN STATES.—These include a territory lying on both sides of the River Main. It comprises three states, styled respectively, the Grand Duchy of Hesse Darmstadt, the Electorate of Hesse Cassel, and the Landgraviate of Hesse Homburg.

DARMSTADT, the capital of the grand duchy of the same name, is the seat of the civil and criminal courts of the duchy.

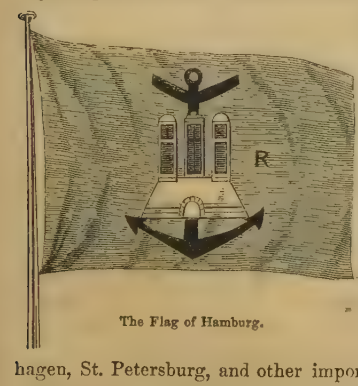
MAYENCE, on the left bank of the Rhine, is the chief trading city in the grand duchy. It has steam communication several times a day with Frankfort, which is about 18 miles distant; and daily with Coblentz, Cologne, Dusseldorf, and other towns in the vicinity.

THE DUCHY OF NASSAU.—Nassau lies between the Hessian States and Rhenish Prussia. It is noted for its medicinal springs. Grazing and the cultivation of the vine are here the most important branches of industry.

WIESBADEN, the capital, situated near the Rhine, is one of the principal watering places of Germany.

THE PRINCIPALITIES OF WALDECK, LIPPE DETMOLD, AND SCHAUMBURG LIPPE are located in North Western Germany.

BREMEN, a free city of Germany, situated on both sides of the River Weser, is second only to Hamburg, as a seat of German commerce. It is a noted place of embarkation for emigrants to America. The territory of this city comprises about 106 square miles.



The Flag of Hamburg.

HAMBURG, a free city, is located on the north bank of the Elbe. It is one of the most important commercial cities in the world. The territory of the city comprises about 150 square miles.

LUBECK, a free city, situated on the Trave, a few miles from its entrance into the Baltic, carries on an extensive transit trade.

It communicates with Hamburg by railway, and by the Trave Canal; with its port Travemunde by steamboats; and also by steam with Copenhagen, St. Petersburg, and other important cities of Northern Europe. The territory of the city contains an area of about 142 square miles.

FRANKFORT, a free city, lying on both banks of the River Main, is the great centre of the inland trade of Germany, and the chief seat of its banking and other mercantile transactions. The territory of Frankfort embraces 90 square miles.

The representatives of the several states of the Germanic Confederation, hold their sittings at this place, and, on this account, Frankfort is styled the capital of Germany.

LESSON CXXII.

MAP STUDIES—DENMARK.

(See Map of "Western, &c., Continental Europe.")

State the situation of the following Cities and Towns, viz.:—Aalborg, Aarhuus, Hadersleben, Flensborg, Sleswick, Kiel, Altona, Gluckstadt,—Elsinore, COPENHAGEN,—and Odense.

THE KINGDOM OF DENMARK.

Area in sq. miles, 21,600. Population, 2,000,000.

Geographical Position, etc.—This kingdom lies north of Germany, between the Baltic and the North Sea. It comprises the Peninsula of Jutland in the north, the Duchies of Holstein and Lauenburg in the south, and a group of islands lying in the Baltic Sea.

Surface.—The surface is almost a perfect flat. In some parts the coast is protected from inundations of the sea by dykes.

Soil, etc.—The soil near the coasts is generally good, but in the interior there are large tracts covered with heath. The climate is humid, and subject to thick fogs, but is mild for its latitude.

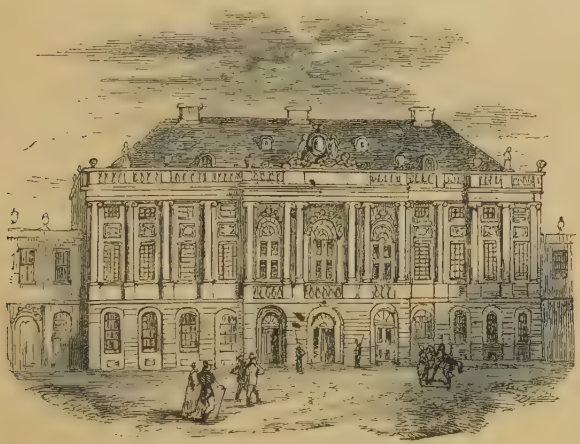
Wheat and oats are extensively cultivated in Holstein and Lauenburg. Geese, ducks, and other birds, are numerous—their feathers forming an important article of traffic. Fish supply the inhabitants near the coasts with a great part of their food. Peat is the principal fuel,—there being no coal except what is imported, and but few forests in the country. The pastures of Denmark are its chief source of wealth.

Inhabitants.—The inhabitants (called Danes) belong to the Teutonic, or German family of nations. Agriculture forms the leading pursuit.

Traveling Facilities.—The roads in Zealand and the other islands are generally good, but in other parts of Denmark they are poor. Railroads have been introduced to a limited extent.

There are three channels of communication between the North Sea and the Baltic, besides the passage round the north coast: these are—the Canal of Stecknitz, which unites the Trave with the Elbe a little above Hamburg; the Canal of Kiel, which connects the River

Eyder with the Baltic; and the Liim Fiord, which reaches entirely across the Peninsula of Jutland. These, however, are capable of being used only by the smaller class of vessels.



The Palace of Amalienborg, Copenhagen.

Manufactures and Exports.—As Denmark contains neither the necessary materials (iron and coal), nor water-power, its manufactures are inconsiderable. Cheese and butter are made in abundance, and distillation and brewing are prosecuted to a great extent. The chief exports are agricultural products, live-stock, fish, beer, and brandy.

Cities.—Copenhagen, the capital, and largest city of the Kingdom of Denmark, is situated partly on the east coast of the Island of Zealand, and partly on the adjacent Island of Amak. Between these two islands is the Strait of Kelleboe, which forms the harbor of Copenhagen, capable of holding 500 ships. This city communicates by steam-packets with the chief ports of the Baltic.

Elsinore, on the Island of Zealand, 25 miles north of Copenhagen, is a small commercial town, where all merchant ships passing into, or out of the Baltic (except Danish or Swedish), pay toll.

Altona, on the right bank of the Elbe, is an important commercial city of Denmark. Ship-building is here carried on to some extent.

DANISH COLONIAL POSSESSIONS.—The colonial possessions of Denmark are, Iceland and the Faroe Isles; some settlements on the west coast of Greenland; and the islands of Santa Cruz, St. Thomas, and St. John, in the West Indies.

LESSON CXXIII.

MAP STUDIES.—PRUSSIA.

State the situation of the following Cities and Towns, viz.:—Dantzic, Elbing, Konigsberg, Memel, Thorn, Bromberg, and Posen.

REMARK.—As the other cities of Prussia were mentioned in the Map Studies of Lesson 117, they need not be repeated here.

THE KINGDOM OF PRUSSIA.

Area in square miles, 108,000. Population, 16,330,000. Provinces, 8.

Geographical Position, etc.—Prussia, a country of Central Europe, consists chiefly of two distinct territories, lying about 40 miles apart, and separated from each other by the Kingdom of Hanover and the Electorate of Hesse Cassel.

The territory east of Hanover is called East Prussia. It is divided into six provinces, viz.:—*Prussia Proper (including what was formerly two provinces, styled East and West Prussia), Posen, Silesia, Saxony, Brandenburg, and Pomerania.

The territory lying along the banks of the Rhine, west of Hanover and Hesse Cassel, is styled West Prussia. It is divided into two provinces, viz.:—Westphalia and the Rhenish Province.

Surface.—The surface is generally level, and forests cover a large portion of the country.

Soil, etc.—In the Rhenish Province, and also along the Vistula, Oder, and Elbe Rivers, the soil is fertile; in other parts, it is not naturally productive. The climate on the borders of the Baltic is changeable, raw, and foggy, but in Rhenish Prussia it is warm enough to produce excellent wine.

In most of the provinces, agriculture is carefully conducted. The chief productions are grain, hemp, flax, hops, and tobacco. Fruits are not extensively cultivated. Amber is found on the shores of the Baltic, and is largely exported to Turkey, where it is used for mouth-pieces of pipes, and for other ornamental purposes.

* The Provinces of Prussia Proper and Posen are styled Prussian Poland.

Great quantities of beet-root are grown, for the purpose of making sugar. Sheep and bees are extensively reared. The raising of swine, particularly in the Provinces of Westphalia and Pomerania, is largely carried on; and the hams, bacon, and sausages, made from them, form a great part of the animal food of the people. Mines of copper, iron, and lead, are worked to some extent.

Inhabitants, etc.—The inhabitants are chiefly Germans, but in some parts of Eastern Prussia they are mostly of Slavonic origin. Jews are numerous in nearly all the cities and towns. About three-fourths of the inhabitants are engaged in the cultivation of the soil.

Traveling Facilities.—Railroads extend through almost every part of Prussia. Berlin is thus connected with Hamburg, Stettin, Breslau, Dresden, Leipsic, Bremen, Cologne, Brussels, Antwerp, Ostend, Paris, Le Havre, Boulogne, and several other cities of Continental Europe. Canals are not numerous, but the rivers afford great facilities for inland navigation.

Manufactures and Exports.—The leading manufactures are linen and woolen goods. Among the chief exports are corn, timber, wool, and various manufactured goods. The inland commerce of Eastern Prussia is chiefly with Austria and Russia. From the former, the Prussians receive salt and wine, and send linen-yarn in exchange; from the latter, hemp, tallow, hides, etc., and send linen and woolen goods.

Cities.—Berlin, the capital, situated on both banks of the Spree, is an important city of the kingdom. The principal street, about a mile in length, is divided into five avenues by rows of trees; and is lined on either side with splendid palaces and public buildings. It is noted for its Royal Library and its University.

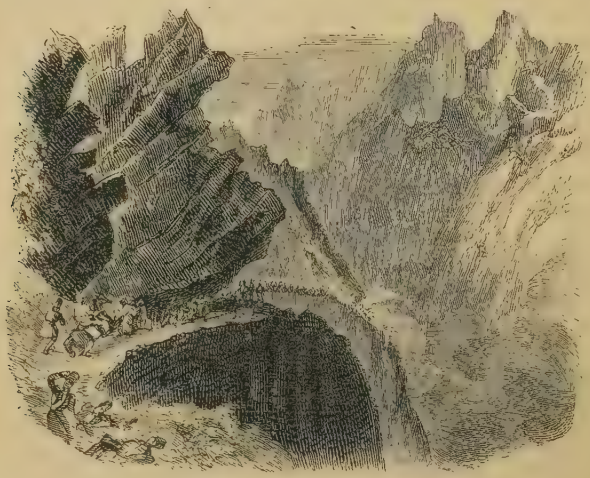
Stettin, on the Oder, is, next to Dantzic, the most important seaport of Prussia. Dantzic, on the western branch of the Vistula, is the chief city for foreign commerce.

Breslau, on the Oder, about 190 miles south-east of Berlin, is the second city in Prussia in population and importance.

Cologne, on the left bank of the Rhine, is the entrepôt of a considerable trade between Belgium, Holland, and the neighboring ports of Germany. A celebrated article of manufacture of this city is Cologne-water, which is exported in very large quantities.

Elberfeld, in Rhenish Prussia, on the Wupper, is a noted manufacturing town. It is celebrated for the dyeing of *Turkey-red*, and a great amount of yarn is annually sent here to be dyed from Great Britain, and other places. The entire valley of the Wupper is

noted for the number and variety of its factories, and for the density of its population.



Mountain Scenery, Switzerland.

LESSON CXXIV.

MAP STUDIES.—SWITZERLAND.

(See Map of "Germanic Confederation.")

Describe the following Cities, viz.:—Basle, ZURICH, Schaffhausen, Constance, St. Gall, Chur, Lugano, Lausanne, Geneva, Neufchatel, BERNE, and LUCERNE.

THE REPUBLIC OF SWITZERLAND.

Area in square miles, 15,000. Population, 2,890,000. Cantons, 22.

Geographical Position.—Switzerland, a small inland country of Central Europe, lies east of France, between Germany on the north and Italy on the south.

Surface, etc.—The chief characteristics of the surface are its towering mountains, and vast glaciers; its beautiful lakes, and smiling valleys; and its numerous Alpine streams, and glittering water-falls.

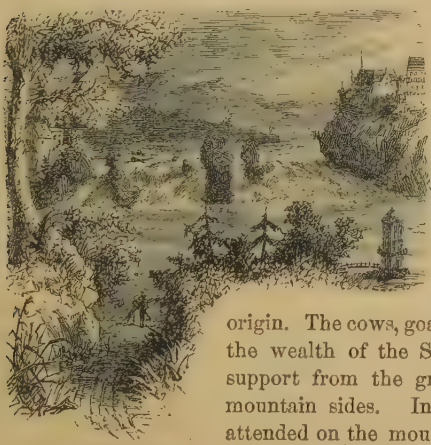
Soil, etc.—The soil is fertile in the valleys; and the climate is cold

on the mountains, temperate on the plains, and hot in the valleys. Flax and hemp are extensively grown, but the chief part of the wealth of Switzerland consists in its excellent pastures, which afford support to immense numbers of cattle. The vine grows in the valleys.

Of the domestic quadrupeds, the Alpine spaniels are much celebrated. These large dogs are trained by the monks of the *Convent of Great St. Bernard to the task of seeking out travelers who may have lost their way on the mountain, or been benumbed by the cold, or partially buried by an avalanche. They are furnished with the means of rendering assistance to the wayfarer, by a basket of provisions fastened round the neck, and they accomplish their mission with wonderful sagacity.

Mineral springs are numerous, and many of them are much resorted to by invalids.

Natural Curiosities.—The Falls of Schaffhausen in the River Rhine, and the Cataract of Staubbach, are much celebrated. The latter, about 36 miles south-east of Berne, is formed by a tributary of the River Aar, and falls from a perpendicular height of 850 feet.



The Falls of Schaffhausen.

Inhabitants, etc.—The inhabitants are mainly of Teutonic and Celtic origin. The cows, goats, and sheep, which form the wealth of the Swiss farmer, derive their support from the grass which grows on the mountain sides. In summer the cattle are attended on the mountains by herdsmen, who live in *chalets*, or rude log huts, to which the persons whose business it is to milk the cows, and to make cheese and butter, repair for that purpose. In winter, the cattle return to the valleys.

Traveling Facilities.—These are generally good. Excellent roads have been constructed across the mountains. The inequalities of the

* This Convent, or Hospice, is situated about 8,000 feet above the level of the sea, near the summit of a mountain pass.

surface do not admit of an extended system of railroads, but some short ones have been introduced. Steamboats ply on all the principal lakes.

Manufactures and Exports.—The making of watches, musical boxes, and jewelry, forms an important feature in Swiss manufacturing industry. These articles, together with cattle, cheese, butter, silk-stuffs, and ribbons, are among the leading exports.

Cities.—BERNE, the capital, is situated on a small peninsula, formed by the River Aar. The streets are adorned with numerous fountains, and the houses are built upon arcades, which afford a dry and sheltered pavement for foot passengers. This city is the seat of an university.

BASLE, or BASEL, located principally on the left bank of the great bend of the Rhine, is noted for its numerous literary and scientific institutions, its manufacture of ribbons, and for being an important entrepôt of trade between France, Germany, the Netherlands, and Switzerland.

ZURICH lies at the foot of a beautiful lake, to which it gives name, on both banks of the River Limmat. It is celebrated for its schools, and also for having been the birth-place of Gessner, Zimmerman, Fuseli, Lavater, and Pestalozzi.

GENEVA, situated on both sides of the Rhone, at the foot of Lake Geneva, is the most populous and industrious city of Switzerland. It is said that there are about 100,000 watches, chiefly gold, annually made in this city. It is noted in religious history for having been the residence of John Calvin.

LESSON CXXV.

ISLANDS OF EUROPE.

THE LOFFODEN ISLES, forming an archipelago off the west coast of Norway, are noted for their herring fisheries.

Near the south-west extremity of these islands, is the remarkable and dangerous whirlpool, called "the Maelstrom." In winter, during storms from the west, the most frightful waves are raised, and the noise of the agitation is heard at a great distance. At these times, it is necessary for vessels to keep at a distance of several miles, lest they be drawn into the vortex and destroyed. This whirlpool is produced by strong currents, which flow first in one direction, and then in the opposite, during alternate periods of six hours, and which cease at high and low water.

THE ISLAND OF QUALOE lying off the north coast of Norway, is noted for its fisheries. Hammerfest, on this island, is remarkable as the most northern collection of dwellings in civilized Europe.

THE GRECIAN ARCHIPELAGO consists of all the islands between Continental Greece and Asia Minor. Thasos, Samothraki, Imbros, Mitylene, Scio, Rhodes, and Scarpanto belong to the Empire of Turkey; and Skyros, Negropont, or Eubœa, Andros, Tino, Miconi, Naxia, Stampalia, Santorini, Amorgos, Milo, Siphanto, Thermia, Syra, Zea, and several smaller islands, form a part of the Kingdom of Greece.

CANDIA, or CRETE, a large island of the Mediterranean, lying south of the Grecian Archipelago, belongs to European Turkey. It is a delightful island, having a mild climate and producing all the necessaries, as well as many of the luxuries, of life. The soap made in Candia is largely exported.

THE IONIAN ISLES comprise Cerigo, Zante, Cephalonia, Santa Maura, Paxo, Corfu, and some smaller islands, whose united area is about 1,000 square miles. The inhabitants number about 230,000.

The chief productions are olives, grapes, and currants, which constitute the chief articles of export.

These islands form an independent state, styled the Ionian Republic, which is under the military protection of Great Britain. CORFU, on the Island of Corfu, is the seat of government.

MALTA and GOZO.—These islands, lying in the Mediterranean, about 50 miles south of Sicily, belong to Great Britain. Malta, though small in size, is of great importance as a maritime station for the protection of British commerce in the Mediterranean, and as a stopping place for packets on their way to and from India. VALETTA, the capital and seaport of the Island of Malta, is noted for its fortifications.

SICILY, an island of the Mediterranean, embracing an area of 10,000 square miles, lies south-west of the Italian Peninsula. This island, together with the Kingdom of Naples in Continental Italy, forms what is styled "the Kingdom of the Two Sicilies." The climate is very warm in summer, and the cold in winter is never so severe as to affect the verdure. The sulphur mines of Sicily are numerous and important.

Among the leading exports are sulphur, oranges, lemons, figs, almonds, and honey. Snow, which falls only on the mountains, is exported in large quantities to Malta and Continental Italy. Palermo, on the north side of the island, is regarded as the second capital of the Kingdom of the Two Sicilies.

The Island of Malta.

LIPARI ISLES.—This group of volcanic islands lies north of Sicily, and belongs to the Kingdom of Naples. The volcano of Stromboli, on the island of the same name, presents a continual eruption of flame, and, on this account, it is called "the Lighthouse of the Mediterranean."

SARDINIA, a large island of the Mediterranean, about 120 miles west of the Italian Peninsula, forms a part of the Kingdom of Sardinia. The forests are extensive, and furnish excellent timber for ship-building. Agriculture is conducted in the rudest manner. Cheese, made of the milk of sheep and goats, is largely exported.

CORSICA, situated north of Sardinia, belongs to France. The soil is fertile, but very badly cultivated. The rearing of live-stock is the chief branch of industry. Timber is abundant, bees are numerous, and most of the fruits common in Southern France, grow upon the island. Beautiful coral is found on the south coast, and it forms an important article of export.

Ajaccio, the capital, is noted as having been the birth-place of Napoleon Bonaparte.

ELBA, a small island situated ten miles from the shore of Tuscany, was erected into a separate principality for Bonaparte and his heirs, after that monarch's first abdication of the throne of France. Here he resided for a short period. It now belongs to Tuscany.

THE BALEARIC ISLES consist of Minorca, Majorca, Iviça, Formentera, and some smaller islands lying east of Spain, to which country they belong. They yield an abundance of corn and fruit. PALMA, on the Island of Majorca, is the capital of the group.

THE CHANNEL ISLES (so called from their situation in the English Channel) consist of Jersey, Sark, Guernsey, Alderney, and some small islets. These belong to Great Britain.

THE DANISH ARCHIPELAGO embraces chiefly the Islands of Zealand, Funen, Laland, Falster, and Moen.

RUGEN, an island in the Baltic, off the coast of Prussia, to which country it belongs, is noted for its fisheries and export of corn and cattle.

BORNHOLM, a large island in the Baltic belonging to Denmark, is celebrated for its fisheries. In the villages, clocks and watches are extensively manufactured for exportation.

OLAND and GOTHLAND are two islands in the Baltic, which belong to Sweden; Oesel, Dago, and the Aland Isles, in the same sea, belong to Russia.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE COUNTRIES OF EUROPE.

(Relating chiefly to the Map of Europe.)

LESSON CXXVI.

1. How does Europe rank in size among the grand divisions of the globe? Sixth. How in population? Second. Mention the chief countries of Continental Europe. Of these, which are peninsulas? Which project into the Mediterranean Sea?

2. What three countries in Europe lie furthest north? What one lies furthest south? Furthest south-west? Furthest east? What countries border on the Black Sea? On the Baltic Sea? On the North Sea? On the Adriatic Sea? On the Bay of Biscay? On the Mediterranean Sea?

3. What country lies between the Baltic and the North Sea? Between the Adriatic and the Mediterranean? Between the Black and the Adriatic?

What country lies between the Mediterranean Sea and the English Channel? Between the Black and the White Seas? What seas border on Russia?

4. Has Switzerland any sea-coast? Has France? Does any part of Prussia border on the North Sea? Where is the Caspian Sea? Has it an outlet? In what direction is Spain from Portugal? France from Spain? Italy from Turkey? Turkey from Russia? Austria from Turkey?

5. In what direction is Switzerland from France? Austria from Switzerland? Italy from Switzerland? Denmark from Germany? Sweden from Denmark? Sweden from Russia? Prussia from Russia? Turkey from Italy? Greece from Turkey?

6. Which extends further north, France or Germany? Germany or Prussia? Italy or Spain? Holland or Belgium? Sweden or Norway? Which extends further east, Holland or Belgium? Austria or Turkey? Turkey or Greece? Austria or Prussia? Which extends further west, France or Spain? Italy or Switzerland? Turkey or Austria?

7. What countries form the northern boundary of Austria? Of Italy? Of Turkey? Of Switzerland? What countries form the eastern boundary of France? Of Germany? Of Holland? Of Austria? What countries form the western boundary of Germany? Of Austria? Of West Prussia?

8. How is Belgium bounded on the south-west? Denmark on the east? Prussia on the east? Turkey? Greece? Greece on the north? Turkey? Russia? Sweden? What separates Sweden from Denmark? Denmark from Norway? What separate France from England? Spain from Africa?

9. Turkey in Europe from Turkey in Asia? What grand division lies east of Europe? What natural divisions form the boundary line between these two countries? What mountain range extends from the Caspian to the Black Sea?

10. Of what continent does Europe form a part? What other grand divisions are included in this continent? In what hemisphere are they situated? How many hemispheres are there? What circle divides the earth into an Eastern and a Western Hemisphere? A meridian circle. What circle divides the earth into a Northern and a Southern Hemisphere? The Equator.

11. Is Europe entirely separated by water from Africa? Is Asia? Where does Europe make the nearest approach to Africa? What is the distance between the nearest points of Spain and Morocco? About nine miles. What is the width of the Strait of Gibraltar? From about nine to 24 miles.

12. (See Lesson XCII.) What is the length of Europe, from Astrachan in Russia, to Brest, on the coast of France? What is its breadth from Cape North to Cape Matapan? Is Cape North *on* the coast of Continental Europe? Mention some of the great Mountain Ranges of Europe. How many distinct systems do these form?

13. What portion of the population of Europe belongs to the Caucasian race? Into how many distinct families is this race here divided? Mention

them. What parts of the continent does the Teutonic family inhabit? Where are the Celts? Do the Magyars (the people of Hungary) belong to the Caucasian race? Do the Finns and Laplanders? To what race do these belong? To what race are the Turks supposed to belong?

LESSON CXXVII.

REVIEW QUESTIONS—(CONTINUED.)

(Relating chiefly to Norway, Sweden, and Russia.)

1. What country occupies the western part of the Scandinavian Peninsula? How wide is the isthmus that unites this peninsula with the mainland? About how many times larger is Norway than Scotland? What is the general character of the surface of Norway? What mountain range in Norway?

2. Is Sweden as mountainous as Norway? Is Russia noted for its mountains? Is Spain? Is Belgium? What courses would you take, what waters cross, in a voyage from Amsterdam in Holland to the capital of Norway? From Christiania to Stockholm?

3. Is there a shorter communication by water from Stockholm to Gottenburg than by the way of The Sound? What river is the outlet of Lake Wetter? The Motala. The outlet of Lake Wener? The Gotha. How are Lakes Wener and Wetter united?

4. Describe the soil of Norway. Mention its most important productions. What form the chief sources of wealth to the inhabitants? Of what origin are the Norwegians? Who inhabit Northern Norway? Describe the traveling facilities of this country. How then is communication carried on?

5. Are there many navigable rivers in Norway? How do the traveling facilities of Norway differ from those of Sweden? What portion of Sweden's surface is covered with lakes? What portion with forests? How are the winters throughout the peninsula? What is the difference between Norway and Sweden as to the amount of corn annually raised?

6. Mention the most noted cataract of Sweden. Describe it. Do the people of Sweden and Norway speak the same dialect? Is Sweden a manufacturing country? What are the chief exports? What city at the mouth of the Gotha? How is Carlscrona situated? For what is Falun, or Fahlun, noted? Where is Malmo? Upsal? What town south-west of Christiania?

7. What vast empire lies east of Sweden? What waters separate these two countries? What sea washes a part of its northern coast? What three large rivers empty into that sea? What rivers empty into the Dwina? What two large rivers empty into the Caspian Sea? What two into the Sea of Azov? Mention the largest lake in Europe. Ladoga.

8. Sailing down the Don, what two important branches would you pass on your left? What one on your right? What town near the mouth of the

Don? By what strait does the Sea of Azov communicate with the Black Sea? How is it sometimes called? Yenikale, or Jenikale. Where is the Peninsula of Crimea? What isthmus connects it with the mainland of Russia? Perekop.

9. Near the mouth of what river is Cherson? On which bank of the Dnieper is Ekatherinoslav? Kiev? Moghilev? What city at the mouth of the Volga? What cities and towns do you find on the left bank of the Volga? What ones on the right? What town is on the south-west coast of the Crimea? For what is this town, at the present day, noted?

10. What important city in Russian Poland is on the Vistula? What river empties into the Gulf of Riga? What is the length of Russia from Crimea to the Arctic shores? What is the character of the surface of Russia? Describe the climate. What are the chief productions?

11. In what condition are the mass of the people? What are the leading industrial pursuits? Describe the traveling facilities. In what does the foreign trade of Russia consist? Mention the chief commercial city. St. P. How is it situated? For what noted? What city in the south-east part of the empire is largely engaged in trade with Western Asia? How is Moscow situated?

12. What country lies between the White Sea and Norway? To whom does it belong? How is the climate? Do the Laplanders reside in either cities or towns? What animal is of great service to the Laplander? How far can a couple of reindeer travel, with a sledge, in a day?

13. Where is the Principality of Finland? Of what empire does it form a part? Russia. What towns in the southern part? What provinces in the south-eastern part of Russia? What part of these provinces is called Circassia? That part which extends along the northern side of the Caucasus Mountains, from the Black Sea and the Sea of Azov to about the meridian 45° east.

LESSON CXXVIII.

REVIEW QUESTIONS—(CONTINUED.)

(Relating chiefly to Turkey, Greece, and Austria.)

1. Where is European Turkey? What noted river crosses the northern part? What chain of mountains traverses the country from east to west? European Turkey is about equal in extent to a country of Western Europe, what country is it?

2. Is Spain as large as France? What political division is France? What Spain? What Turkey? What Switzerland? What is the length of Turkey from east to west? How is the soil? What are cultivated in the central and elevated districts? What grow in great profusion in the south?

3. For what drugs is this country noted? What abound in the marshes?

What animals are found in Turkey in greater abundance than elsewhere in Europe? For what is the southern base of the Balkan Range remarkable? Who are the ruling people of Turkey? Do they form the majority of the population?

4. Describe the traveling facilities of Turkey. To what articles are the manufactures of Turkey chiefly confined? In what part of Turkey is Adrianople? Where is Constantinople? Describe this city.

5. What city ranks next to Constantinople in commercial importance? S. Of the cities and towns in European Turkey you have learned the location of, which are on the Danube? Which on or near the Maritza? What one on the Strait of Otranto? On the coast of the Black Sea? On the Sea of Marmora? On the Strait of Dardanelles?

6. How is Greece bounded? Mention its chief divisions. Describe the surface. What is the character of the climate? Between what latitudes does Greece lie? What is latitude? How many kinds are there? Where must a place be situated to have no latitude? What is the equator?

7. What archipelago lies east of Greece? Mention some of its most important islands. What are the chief productions of Greece? Who are the inhabitants? Are the traveling facilities good? How are the manufactures? What are the leading exports? What city is the capital?

8. What empire lies between Greece and Austria? How is Austria bounded? Into how many provinces is it divided? What provinces are included in German Austria? Of what was Galicia formerly a part? Mention the Hungarian countries.

9. Where is Austrian Italy? What is it sometimes called? To what country does it geographically belong? Of what empire does it politically form a part? By what mountain ranges is Austria traversed? In what parts of the empire are there extensive plains?

10. What is the general character of the soil in Austria? What constitute the chief agricultural products? For what are Hungary and Galicia noted? How does Austria rank in minerals? What form the leading industrial pursuits? How do the traveling facilities of Austria compare with those of Turkey?

11. What city is the capital of the empire? Describe this city. Is Austria noted as a manufacturing country? What are the chief exports? What city is the capital of Bohemia? P. On both sides of what river is it? What one is the capital of Galicia? L. For what is Lemberg noted? Mention the chief commercial city of the Austrian Empire. T.

12. Where is Pesth? What city on the opposite side of the river? About how far is Kaschau from Pesth? 130 miles. How is Kaschau situated? In the vicinity of vineyards, the wine of which is an important article of traffic both to Kaschau and Miskoltz. Where is Schemnitz? For what noted? For its mines of gold and silver. What town on the Danube about three miles

north-west of Belgrade? S. For what noted? As being the chief entrepôt of the trade between Austria and Turkey.

13. For what is Temesvar noted? As being a strong fortress of Southern Hungary. What seaport town on the Adriatic is the chief port of the Hungarian Provinces? Fiume. How is it situated? It lies at the head of the Gulf of Quarnero.

14. In what direction is Trieste from Fiume? Laybach from Trieste? Near what river is Laybach? Of what river is the Save a branch? Describe the Danube. Mention its chief northern branches. Which one of these forms the boundary line between Moldavia and Russia? What is Moldavia? A province of European Turkey.

15. In what part of Austria is Hungary? In what part Galicia? (See Map of Germanic Confederation for answers to the following questions.) By what mountain chains is Bohemia surrounded? What city is its capital? Prague. What province lies east of Bohemia? M. What archduchy south? What branches of the Alps cross Styria? What Illyria? Where is Tyrol? What country bounds Tyrol on the north? What range of mountains separates it from Austrian Italy?

LESSON CXXIX.

REVIEW QUESTIONS.—(CONTINUED.)

(Relating chiefly to Italy, France, Spain, and Portugal.)

1. Where is Italy? What does it comprise? In what part is the Kingdom of Sardinia? In what part the Lombardo-Venetian Kingdom? What city is its capital? Describe it. How is Venice situated? Where are the States of the Church? What kingdom in the southern part of Italy? What island forms a part of this kingdom?

2. Where is the Duchy of Modena? Where Parma? What city is the capital of Sardinia? What does this kingdom embrace? What city is the chief seaport of Sardinia? What city is the capital of Naples? By what other name is this kingdom known? What city is the capital of the Papal States? How situated?

3. What city on the Mediterranean is the chief seaport of Italy? L. What is the general character of the surface of the Italian Peninsula? What is the character of the soil? For what are the Neapolitan Provinces noted? Describe the traveling facilities. Is Italy noted for its manufactures?

4. How is France bounded? On what river is Paris? How far above the mouth of that river is it? What seaport at the mouth of the Seine? What city about 75 miles further up the river? R . . . n. Where is Calais? What town about 20 miles to the south-west? Where is Amiens? Strasburg? For what is Strasburg noted?

5. Where is Lyons? Toulouse? Bordeaux? What cities on the Loire? Where is Brest? Versailles? For what is it noted? How far is it from Paris? What river empties into the Gulf of Lyons? Mention the principal branches of the Seine. In what country does the Rhone have its source?

6. Into how many departments is France divided? What part of France is mountainous? What is the character of the soil? What are extensively reared in Southern France? What vegetable is grown in great quantities? For what purpose? Mention the chief stations of the French navy. Brest and Toulon. Describe the chief traveling facilities of France. How does France rank in manufactures? What form the leading articles of export?

7. What colonial possessions has France in Africa? What in the Indian Ocean? What in the West Indies? What in South America? How is Spain bounded? What group of islands lies off the east coast of Spain? Where is the Ebro? Describe it. Where the Guadalquivir? What three important rivers cross Portugal? In what country do these rivers rise?

8. What city is the capital of Spain? Where is Corunna? Describe it. Which is the largest seaport of Spain? B. What range of mountains forms the water-shed between the Tagus and the Guadiana? What between the Tagus and Douro? What ranges in France separate the rivers that flow into the Mediterranean from those that flow into the Bay of Biscay?

9. Is Belgium naturally divided from France? Is Spain? By what mountain range? What extensive valley lies south of this range? Mention the chief stations of the Spanish navy. Ferrol and Cartagena. How is Cadiz situated? For what is the Bay of Cadiz noted? Where is Gibraltar? To what government does it belong?

10. What large island in the Mediterranean belongs to France? Where is the Republic of Andorra? Describe it. What is the general character of the surface of Spain? What of the climate? What are the leading productions in the south? By whom is Spain inhabited? Are the traveling facilities of this country equal to those of France?

11. What colonial possessions has Spain? How is Portugal bounded? What city is its capital? What city is second in the kingdom in commercial importance? O. For what is it noted? What place is noted for its university? What colonial possessions has Portugal? What is the character of the soil? Is agriculture in an advanced state? What are the chief exports?

LESSON CXXX.

REVIEW QUESTIONS.—(CONTINUED.)

(Relating chiefly to Belgium, Holland, and Germany.)

1. How is Belgium bounded? Describe the surface of Belgium. How are the coasts protected from being overflowed by the sea? Are there any lakes

in Belgium? What is the character of the soil? How has it been made productive? What is the climate? By whom is Belgium inhabited? What city is the capital? For what celebrated?

2. What forms the chief source of wealth to the Belgians? What are the leading industrial pursuits? What are the chief exports? What minerals are abundant? How is Denmark in this respect? Where is Ostend and what is it? Where Antwerp? What city is the chief seat of the iron works of Belgium?

3. How is Holland bounded? What political division is it? What is Belgium? What France? What Spain? What Portugal? Does Italy form one distinct government? By whom is Holland chiefly inhabited? Describe the surface of the kingdom. What is the character of the soil? What branch of industry is here brought to great perfection?

4. For what traveling facilities is Holland noted? How are its chief cities connected? What city is the capital? Where is Amsterdam? What city about 11 miles to the west? What important river flows through Belgium into Holland? Through Prussia into Holland? What foreign possessions has Holland?

5. What is the total area of the German Empire? What does it comprise? In what does the general government of the Confederation consist? Who is the President of the Diet? What is the business of the Diet? What is the character of most of the governments of the German States?

6. What is the character of the soil in Northern Germany? In Southern? Where is the Duchy of Oldenburg? How is the Kingdom of Hanover bounded? Does this kingdom form a part of Prussia? What is the most important branch of industry in Hanover? How is the capital situated?

7. How many duchies does Mecklenburg include? Of how many detached portions of territory does the Duchy of Brunswick consist? For what is the capital city noted? Where is the German Kingdom of Saxony? The Prussian Kingdom of Saxony? What city is the capital of German Saxony? What city in this kingdom is noted for its book trade?

8. Where are the Duchies of Anhalt? For what are they celebrated? Which of these duchies form independent states? Where are the Principalities of Schwarzburg? Which is further north? Mention the Saxon Duchies. Where are the Reuss Principalities? What large kingdom occupies a great part of Southern Germany? B.

9. What does the Bavarian Kingdom embrace? What is the general character of the surface? What is the staple production? For what branch of manufacturing industry is Bavaria noted? What city is the capital? How is it situated? For what noted? What city about 100 miles distant is celebrated for its manufactures? What city in Bavaria is noted for its banking operations? A.

10. What small principality lies east of Switzerland? Where is the Kingdom of Wirtemberg? For what is this kingdom celebrated? What city is the capital? How situated? What two principalities belonging to Prussia lie between Baden and Wirtemberg? What grand duchy lies between Wirtemberg and France? What city is the capital?

11. What celebrated watering place about 20 miles from Carlesruhe? Mention the most important town in the Grand Duchy of Baden? M. Name the Hessian States. In what part of Germany are they situated? Describe Mayence. What duchy is particularly noted for its mineral springs?

12. Mention the four free cities of Germany. Which one of these is the chief commercial emporium of the German Empire? Which one is a noted place of embarkation for German emigrants to America? Which one is on the Trave? What town is the port of Lubeck? Where is Frankfort?

LESSON CXXXI.

REVIEW QUESTIONS.—(CONTINUED.)

(Relating chiefly to Denmark, Prussia, and Switzerland.)

1. What kingdom lies north of Germany? What duchies in this kingdom form a part of the Germanic Confederation? H. and L. What does Denmark comprise? Is Denmark mountainous? Is Russia? Is Spain? Is Belgium? Is Norway? What are the chief productions of Denmark? What form the chief sources of wealth? To what family of nations do the Danes belong? What is the leading industrial pursuit?

2. How are the traveling facilities of Denmark? Is this kingdom noted for manufactures? Has Denmark the native materials for manufacturing purposes? Has England? What form the chief exports? What city is the capital? How is it situated?

3. What town on the Island of Zealand about 25 miles north of the capital? Where is Altona? Mention the colonial possessions of Denmark. In what direction from Denmark is Prussia?

4. How is Prussia divided? What city is the capital of the entire kingdom? How is that city situated? Of what river is the Spree a branch? Of what the Havel? Describe the Elbe. What important river flows through Rhenish Prussia? Into what sea does the Rhine flow? In what country does it have its source? Through what large lake does it flow?

5. What is the general character of the surface of Prussia? What two principalities, situated in Southern Germany, belong to Prussia? Which is naturally the most productive part of Prussia? What are the chief productions? In what part of the kingdom is the raising of swine extensively carried on? What provinces does Prussian Poland embrace? What important seaport at the mouth of the Vistula? What one on the Oder?

6. What rivers flow across the eastern division of Prussia? Of which one is the Wartha a branch? Of which one, the Bug? Sailing down the Oder, what four important towns would you find on its left bank? Mention the most important seaports of Prussia. S., S., C., D., E., K., and M.

7. By whom is Prussia chiefly inhabited? Mention the traveling facilities. What are the leading manufactures? What the chief exports? With what countries does Eastern Prussia carry on an extensive inland commerce? A., and R. In what does this commerce chiefly consist?

8. About how far is Breslau from Berlin? Where is Cologne, and for what is it noted? Where is Coblentz? Dusseldorf? What town lies about 20 miles east of Dusseldorf? On what river is it situated? On the Wupper. For what is it noted?

9. What important town on the Elbe, in Prussia? M. For what is Magdeburg noted? For its citadel, built on an island in the Elbe. What republic lies south of Germany? How is Switzerland divided? Into 22 Cantons. What lakes in Switzerland? What river passes through Lake Thun? What one is the outlet of Lake Lucerne? Of Lake Zurich? Of Maggiore? Of Geneva? Of Como?

10. What two important rivers of Europe have their source in Switzerland? On which side of Mount St. Gothard does the Rhine rise? For what is this river noted? For the beautiful and varied scenery along its banks. Mention the largest city of Switzerland. G. Mention the chief commercial city. Basle. For what is it noted? What are the leading exports of Switzerland?

LESSON CXXXII.

REVIEW QUESTIONS.—(CONTINUED.)

(Relating chiefly to the Islands of Europe.)

1. Where are the Loffoden Isles? For what are they noted? What town is on the Island of Qualoe? What cluster of islands lies between Greece and Asia Minor? Mention those that belong to the Turkish Empire. Mention those that belong to the Kingdom of Greece.

2. Where is Candia? To what empire does it belong? What do you know respecting this island? Where are the Ionian Isles? Mention them. By whom are they inhabited? By what government protected? Mention the chief productions.

3. Where is the Island of Malta? What small island lies near it? To what nation do they belong? What renders Malta of importance? What town is the capital? Where is Sicily? Of what kingdom is it a part? What is this kingdom sometimes styled? What is the character of the climate in Sicily? What volcano in this island?

4. Where is Palermo? What seaport towns on the south coast? Mention the leading exports of Sicily. Where are the Lipari Isles? What volcano on one of these isles? Where is Vesuvius? What island lies south of Corsica? What strait separates these islands? Of what empire does Corsica form a part? Of what kingdom, Sardinia?

5. Mention the most important productions of Corsica. What form an important article of commerce? For what is Ajaccio noted? What is the chief export of Sardinia? Where is the Island of Elba? How far from the Italian coast is it? To what division of Italy does it now belong?

6. Where are the Balearic Isles? Mention the most important islands. To what country do they belong? For what productions are they noted? What town is the capital? What port on Minorca?

7. Where are the Channel Isles? To whom do they belong? Mention the most important islands in the Danish Archipelago. Where is Rugen, and to what country does it belong? Where Bornholm, and to what kingdom does it belong? To what kingdom do Oland and Gothland belong? Mention the chief isles in the Baltic, belonging to Russia.

ASIA.

LESSON CXXXIII.

MAP STUDIES.—Systematically Arranged.

Mention the boundaries of the following Countries, viz.:—Siberia, Chinese Empire, Chinese Turkestan, Mongolia, Manchooria, Corea, China Proper, Thibet, Koko-Nor,—Anam, Siam, Malaya, Tenasserim, Birmah, Hindostan,—Beloochistan, Arabia, Turkey, Georgia, Persia, Independent Turkestan, and Afghanistan.

State the situation of the following Cities and Towns, viz.:—Obdorsk, Touroukhansk, Olensk, Petropaulovski, Okhotsk, Yakutsk, Kiachta, Irkutsk, Krasnoyarsk, Yeniseisk, Tomsk, Barnaule, Omsk, Petropaulovski, Tobolsk, and Samarova,—Ili, Yarkand, Kashgar,—Maima-tchin, Oorga,—Yaksa, Tondon, Quanlin, Chin Yang,—Kingkitao,—Singan, Pekin, Teentzin, Kaifung, Nankin, Shang-hae, Hang-chou-foo, Ningpo, Nan-chang, Fu-chu-fu, Amoy, Chang-chu-fu, Canton, Macao, Yunnan, Ching-tu-fu,—Lassa, and Leh.

PART II.

State the situation of the following Cities and Towns, viz.:—Kecho, Hue, Saigon,—Siam, or Yuthia, Bangkok, Patani, Pahang,—

Malacca,—Mergui, Moulmain,—Monchobo, Umerapoora, Ava, Rangoon, Aracan,—Moultan, Lahore, Cashmere, Delhi, Agra, Benares, Patna, Dacca, Calcutta, Cuttack, Hyderabad, Madras, Pondicherry, Cochin, Mangalore, Goa, Poonah, Bombay, Surat, Cambay, Oodipoor, Hydrabad, Tatta, Nagpoor,—Kelat, Gundava, and Choubar.

PART III.

State the situation of the following Cities and Towns, viz.:—Deraia, Muscat, Hasek, Aden, Mocha, Sana, Loheia, Mecca, Medina, —Brusa, Scutari, Sinope, Trebizond, Erzeroum, Bagdad, Bassora, Jerusalem, Damascus, Beyrout, Aleppo, Smyrna, Diarbekir,—Teflis,—Tabriz, Teheran, Balfrush, Yezd, Kerman, Shiraz, Bushire, Kermanshah, Ispahan,—Turkestan, Khokan, Samarcand, Bokhara, Balkh, Khiva,—Herat, Cabul, Ghiznee, and Candahar.

LESSON CXXXIV.

MAP STUDIES—(Continued.)

Describe the following Islands, viz.:—Nova Zembla, New Siberian Isles, Kurile Isles, Saghalien,—Jesso, Niphon, Sikoke, Kiusiu,—Loo-Choo Isles, Formosa, Hong Kong, Hainan, Singapore, Nicobar Isles, Andaman Isles, Ceylon, Maldive Isles, and Laccadive Isles.

State the situation of the following Island Towns, viz.:—Hakodadi, Matsmai,—Aisa, Jedo, Simoda, Osaca, Miaco,—Ava,—Nangasaki,—Tai-wan,—Kiong-tchou,—Singapore,—Trincomalee, and Colombo.

Describe the following Peninsulas, viz.:—Kamtchatka, Corea, Malaya, Hindostan, and Arabia.

PART II.

Describe the following Isthmuses, viz:—Kraw and Suez.

Describe the following Capes, viz.:—North East, Sviatoi, East, Lopatka, Cambodia, Romania, Negrais, Comorin, Juggut, Ras-al-had, Isolette, and Fartak.

Describe the following Mountain Chains, viz.:—Altai, Stanovoy Chang-pe-shan, Khing-gan, Peling, Meling, Eastern Ghauts, Western Ghauts, Taurus, Elburz, Hindoo Koosh, Himalaya, Kuen-lun, and Thian-Shan. *Peaks:*—Byelucha, Kunchinginga, Sinai, and Ararat.

State the situation of the following Deserts, viz.:—Indian, Salt, Karakoum, Kizilkoum, Khiva, and Cobi.

PART III.

Describe the following Seas, viz.:—Kara, Kamtchatka, Okhotsk, Japan, Yellow, Blue, Chinese, Arabia, Red, Black, Caspian, and Aral.

Describe the following Gulfs and Bays, viz.:—Obe, Lena, Anadir, Pechelee, Tonquin, Siam, Martaban, Bengal, Manaar, Cambay, Cutch, and Persian.

Describe the following Straits, viz.:—Behring, Corea, Malacca, Palk, Ormus, Bab-el-Mandeb,—La Perouse, Matsmai, and Simonoski.

Describe the following Channels, viz.:—Tartary and Formosa.

Describe the following Lakes, viz.:—Zaisan, Tchany, Baikal, Piasina, Tonting, Balcash, Kessel-bashi-nor, and Koko-Nor.

PART IV.

Describe the following Rivers, viz.:—Obe, Tom, Vak, Irtish, Ishin, Tobol,—Yenisei, Selenga, Angara, Tungouska,—Piasina, Khatanga, Anabara, Olensk, Lena, Vitim, Aldan, Viluti,—Yana, Indighirka,—Kolima, Anadir, Amoor, Shilka, Argun, Songari,—Pei-Ho, Hoang Ho, Yang-tse-Kiang, Ya-tong-Kiang, Kin-cha-Kiang,—Hong-Kiang, Canton:—

Tonquin, Cambodia, Menam, Saluen, Irrawaddy, Brahma-putra, Ganges, Gogra, Jumna, Hoogly,—Godavery, Kistna, Nerbuddah, Indus, Sutledge,—Euphrates, Tigris, Amoo, and Sihon.

LESSON CXXXV.

ASIA.

Area in sq. miles, 15,552,000. Population, 600,000,000.

Geographical Position, etc.—Asia, one of the grand divisions of the earth, occupies the eastern portion of the Eastern Continent. Its length, from Behring Strait to Bab-el-Mandeb, is about 6,700 miles, and its breadth, from the south-east extremity of China Proper to the Ural Mountains, is about 3,800 miles.

Physical Characteristics.—The northern and north-western parts consist of vast plains, and the central part is an elevated table-land. The mountain chains extend mostly in an easterly and a westerly direction. The river systems of Asia surpass those of any other portion of the Eastern Continent.

Inhabitants.—The inhabitants comprise three distinct races, viz.:

the Caucasian, the Mongolian, and the Malay. The Hindoos, Arabs, and Persians are generally considered as belonging to the Caucasian race, and the Chinese and Tartars to the Mongolian.

ASIATIC RUSSIA.

Asiatic Russia consists of two parts; 1st, the Caucasian Provinces, between the Caspian and the Black Sea, the greater part of which is known by the name of Georgia; and 2d, Siberia.

SIBERIA.

Area in sq. miles, 5,260,000. Population, 3,000,000.

Geographical Position.—This immense territory, belonging to European Russia, occupies the entire northern part of the Asiatic Continent. Its extreme length is about 3,600 miles, and its breadth about 1,800 miles.

Surface.—It is a vast plain, sloping toward the Arctic, and watered by numerous rivers which flow in that direction.

Soil, etc.—The soil is sterile, and the climate intensely severe. This cold, and generally barren country, supplies two kinds of natural produce, metals and furs; for the sake of which the rigor of its climate is endured, and the perils of its almost solitary wastes are cheerfully encountered. The chief metals are gold and silver.

Traveling Facilities.—These are very few. The rivers furnish the chief means of transport.

Inhabitants, etc.—The inhabitants consist of various tribes, of Tartar or Mongol descent, and of exiles from European Russia, banished by the Emperor for political or other offences. The latter are under the charge of a military force, and occupy the country in the vicinity of the Ural Mountains. Mining and hunting form the chief pursuits.

Manufactures and Exports.—At Irkutsk there is an imperial factory of woolens for the clothing of the troops; and, in some of the mining districts, there are imperial founderies. Tobolsk has some tanneries and manufactories of soap. The exports are furs, leather, and metals.

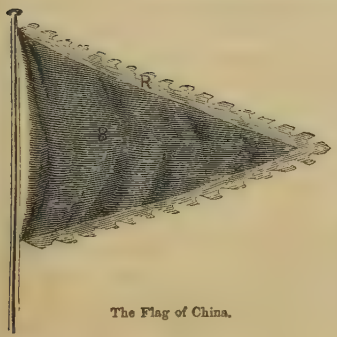
Cities.—Irkutsk, the provincial capital of Eastern Siberia, lies on the right bank of the Angara. It is the handsomest town in the territory, and the centre of such refinement as Siberia possesses.

Tobolsk, the provincial capital of Western Siberia, on the Irtish, is the chief emporium of trade in this quarter.

Kiachta is situated on the frontier line, a short distance from Mai-ma-tchin on the Chinese side of the boundary. Here the Russian merchants bring furs, skins, leather, cattle, and bullion, and exchange them for tea, silk, porcelain, and other articles of Chinese produce and manufacture.

THE CHINESE EMPIRE.

Area in sq. miles, 5,200,000. Population, 400,000,000.



The Flag of China.

This empire embraces an area of more than five millions of square miles, in which are included the countries of Chinese Turkestan, Mongolia, Manchooria, Corea, China Proper, Thibet, and the Koko-Nor Territory.

Chinese Turkestan, or Little Bucharia, Mongolia, Manchooria, and the Koko-Nor Territory are generally included under the name of Chinese Tartary. It is chiefly an elevated plain, bounded by lofty mountain ranges. Among the numerous tribes inhabiting this part of the Empire, there are many varieties of manners and customs. The Mongolians live in tents, which, as the pastures fail, they remove ten or fifteen times a year, going north in spring and south in autumn. Their flocks consist of horses, camels, black cattle, sheep, and goats.

COREA is only *nominally* a part of the Chinese Empire. It is in all respects a separate kingdom, except that the king, who has absolute authority among his own subjects, is obliged to pay an annual tribute to the emperor of China.

Kingkitao, the capital, is the residence of the sovereign.

LESSON CXXXVI.

CHINA PROPER.

Area in square miles, 1,300,000. Population, 367 000,000.

Geographical Position, etc.—China Proper forms the south-eastern part of the Chinese Empire. Its area is about six times the size of France, and more than twenty times that of our New England States.

Surface.—It is considerably diversified. The greater part presents

a succession of river-valleys divided by ranges of high lands. In the north-east, is an extensive and fertile plain.

Soil, etc.—The soil is fertile, highly cultivated, and well-watered; and the climate, cold in the north, but mild in the south. Among the native productions, the tea-plant is the most noted. Of grain, rice is the staple product. The sugar-cane, cotton, hemp, tobacco, rhubarb, indigo, varnish-tree, camphor-tree, tallow-tree, and cinnamon are among the trees and shrubs most common in the fields and gardens. Olives, oranges, pine-apples, etc. are abundant. The mulberry is extensively reared for the purpose of the silkworm.

Inhabitants, etc.—The Chinese are of Mongolian origin. Agriculture and manufactures form the leading pursuits. Trade, both inland and maritime, is extensive.

Traveling Facilities.—The roads are generally narrow and not suited to large vehicles. Traveling and traffic are carried on chiefly by means of the numerous rivers and canals. The Imperial Canal runs through the eastern part of China, from Pekin to Hang-chou-foo, or Hangtcheou, a distance of about 700 miles. By means of another canal the navigation is continued to Canton, with the interruption of but a single day's journey over a mountain chain that intervenes.

Manufactures and Exports.—In the manufacture of silk and cotton cloths, and earthen-ware, the Chinese have attained great eminence. They are noted also for their skill in the carving of ivory, tortoise-shell, mother-of-pearl, and other ornamental articles, and also for the taste they display in the arts of embroidery, dyeing, and the making of artificial flowers, and papers of fine tissue.

About 100,000,000 pounds of tea are annually exported to Europe and America. Silk and nankeen stuffs, porcelain, lacquered wares, articles of ivory, etc., are also exported to some extent.

Cities.—PEKIN, the capital of the Empire, is situated in a sandy plain, near the Pei-Ho, about sixty miles south of the Great Wall of China, and 100 miles from the sea. It consists of two contiguous cities, each encircled by lofty walls, and inhabited, respectively, by the Tartars and the Chinese. The Tartar City contains the Imperial Palace.

NANKIN, on the right bank of the Yang-tse Kiang, is one of the principal seats of the silk, paper, and cotton manufactories of China.

SHANG-HAE, NINGPO, FU-CHU-FU, or FOU-TCHOU-FOO, AMOY, and CANTON, are the five free commercial ports of China. CHANG-CHU-FU, is situated about 36 miles south-west of its port, Amoy.

Canton, on the left bank of the Canton River, about 70 miles from its mouth, is the chief commercial emporium of China. It is extensively engaged in the tea-trade.

Entrance to the Hoang-Ho River.

THIBET, a region of Central Asia included in the Chinese Empire and situated west of China Proper, is but imperfectly known.

Climate, etc.—The climate is cold, and the attention of the people is directed mainly, to the rearing of sheep and goats. The fine hair of the latter, which is used in making Cashmere shawls, is largely exported. Musk-deer are found in great numbers among the mountains.

Lassa, near the Brahma-putra, is the capital of Thibet. It is distinguished as being the residence of the Grand Lama, and is usually crowded with noble personages from various parts of Asia, who come to do him homage and offer costly presents.

LESSON CXXXVII.

INDIA.

Area in sq. miles, 2,200,000. Population, 152,000,000.

INDIA comprises two large peninsulas in the southern part of Asia, styled "India beyond the Ganges," or, "the Indo-Chinese Peninsula," and "Hindostan."

THE INDO-CHINESE PENINSULA.

Area in sq. miles, 1,000,000. Population, 22,000,000.

Geographical Position.—Indo-China (sometimes called Further India) is bounded on the north by Thibet and China Proper, east and south by the Chinese Sea, and west by the Bay of Bengal and the plains of Northern Hindostan.

Divisions, etc.—It is divided chiefly into three states, viz.:—the Kingdom of Siam, and the Empires of Anam and Birmah. Besides these, there are some small Malay States occupying the Malay Peninsula, and a long narrow strip of territory, belonging to Great Britain, called the Tenasserim Provinces.

As these several countries constitute one distinct geographical region, they will be described under one general head.

Surface.—The peninsula is diversified by long river-valleys, and a succession of mountain chains.

Soil, etc.—The soil is fertile, and the climate hot and moist, but generally healthy. Forests are numerous and yield much valuable timber, among which are many woods, used as dyes and perfumes. Rice is the chief crop, and cotton, indigo, tobacco, and the sugar-cane, are extensively grown.

Marble, amber, also sapphires and other gems, are found in various parts of the peninsula. Wild animals, such as elephants, rhinoceroses, tigers, etc., are numerous.

Inhabitants, etc.—The inhabitants, except those of the Malay Peninsula, bear a resemblance to the Hindoos and Chinese. Agriculture is pursued, though in a very imperfect manner.

The houses are generally constructed of bamboo and matting, covered with thatch, and resting several feet above the ground on a foundation of piles. In all the countries of the Indo-Chinese Peninsula (as, indeed, throughout Asia), a great portion of the laborious occupations is performed by females.

Traveling Facilities.—There are few or no roads; consequently, internal communication is mostly by the rivers.

Manufactures and Exports.—A few silk and cotton goods are woven, chiefly by females; and the art of dyeing is practised to some extent. The people of Birmah excel in gilding, and are also noted for the casting of bells, designed for the service of their numerous temples. Most of the manufactured goods used, are imported. Among the leading

exports are, timber, embracing a variety of ornamental woods, raw-silk, cotton, ivory, gums, cardamom seeds, and edible birds' nests.*

Cities.—Hue, the capital of the Empire of Anam, is situated on the Hue, about 10 miles from the China Sea. It is noted for its fortress, which is considered the strongest in Asia.

Bangkok, the capital of Siam, on the Menam about 25 miles above its mouth, is a large city, and the chief trading port of the kingdom.

Malacca, a small town on the south-west coast of the Malay Peninsula, together with an adjacent territory extending about 40 miles along the coast and 30 miles inland, belongs to Great Britain.

Moulmain, or Maulmein, at the mouth of the Saluen, is the most important town of the Tenasserim Provinces.

Monchobo, the capital of Birmah, is situated about 30 miles north of Ava, which was formerly the capital. Rangoon, on the east branch of the Irrawaddy, is the chief commercial city of the Birman Empire.

LESSON CXXXVIII.

HINDOSTAN.

Area in sq. miles, 1,200,000. Population, 130,000,000.

Geographical Position, etc.—Hindostan, or India Proper, embraces the more westerly of the two great peninsulas of India. Its entire area nearly equals one-third that of all Europe.

National Divisions.—The chief divisions of Hindostan are, the British Territories, the Protected States, and the Independent States.

The British Territories comprise three *presidencies*—Bengal, Madras, and Bombay. These are wholly under the control of the British.

The Bengal Presidency embraces nearly the entire valley of the Ganges, the districts watered by the tributaries of the Indus, and some territories in Indo-China.

The Madras Presidency includes a large portion of the southern part of the Peninsula of Hindostan.

The Bombay Presidency embraces the western side of the peninsula from about the 16th parallel to the Gulf of Cambay, with part of the interior table-lands, and the Province of Sinde, lying along the lower course of the Indus.

* These are the nests of a species of swallow, a native of some of the islands of the Asiatic Archipelago. They are composed of a sort of glutinous substance, and are eaten as a luxury by the Chinese.

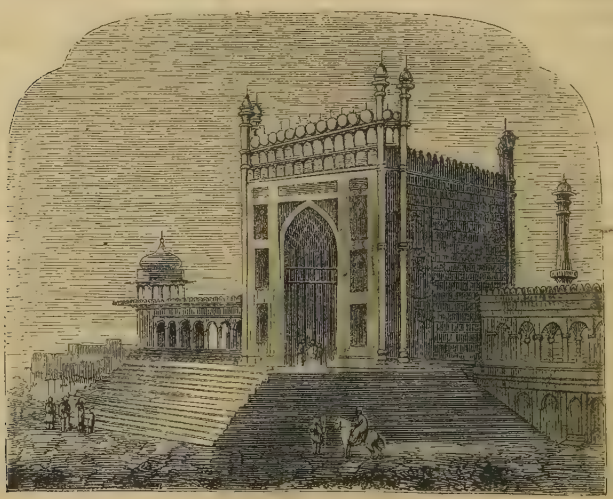
The Protected States, situated mainly in the central part of Hindostan, still retain their own forms of government, though they are under either the protection or control of the British.

The Independent States comprise Nepaul and Bootan, two states lying along the southern slope of the Himalaya Mountains. These belong to, and are governed by, native sovereigns.

Besides the divisions above named, there are some small settlements belonging to the French and Portuguese.

With the exception, therefore, of the Independent States, and the settlements of the French and Portuguese, the whole of Hindostan is under British superintendence.

The government is chiefly in the hands of the East India Company, subject to the supervision of the sovereign of Great Britain.



The Mosque of Jumna Musjid, Delhi.

Surface.—The surface of Hindostan consists of a vast plain in the north, and of high plateaus, bordered by mountain chains, in the centre and south. The west, or Malabar coast, is high and bold, and the east, or Coromandel coast, is low and sandy.

Soil, etc.—There are some barren tracts, in the interior table-lands, that are deficient in water; but the valleys of the Ganges and the

Indus are very fertile. In the south and middle regions, the heat is very great, and the year is divided into two seasons—the wet and the dry. Hurricanes are common.

The woods and jungles, in every part of India, abound in ferocious animals, and birds and insects are very numerous. The trees are sometimes so completely covered with a beautiful insect called the fire-fly, as to appear like "pyramids of light."

One of the most remarkable productions of India is the Banyan, or Indian fig-tree, whose branches extend to the earth, take root, and form new trunks. The largest and most celebrated of this kind of tree, grows on the banks of the Nerbuddah. It has more than 3000 trunks, or stems, and covers an area of about seven acres.

The vegetable and mineral productions of India are both rich and varied. Cocoa-nuts, pomegranates, citrons, dates, tamarinds, pine-apples, bananas, and many other tropical fruits, grow here in great profusion. Indigo and opium are extensively cultivated. Diamonds and other precious stones are also among the native products.

Inhabitants, etc.—About six-sevenths of the inhabitants are included under the general name of Hindoos; the remainder consist of various foreigners settled in India. Agriculture forms the leading pursuit, but is conducted in the most unskillful manner.

Traveling Facilities.—The roads are mere tracks; and stages, or public vehicles of any kind, are almost wholly unknown. Steamers of light draught have been introduced upon some of the rivers, and a railway has been commenced, which is to extend from Calcutta, about 500 miles, to a short distance beyond Benares.

Manufactures and Exports.—Among the manufactures of India, cotton and silk fabrics, and Cashmere shawls, are the most important. The leading exports are indigo, opium, cotton, wool, silk, drugs, perfumes, and precious stones. The commerce of India is considerable.

Cities.—Calcutta, the capital of the Bengal Presidency and of British India, situated on the east bank of the Hoogly, and extending along the river for about six miles, is the seat of an immense trade. The English live in a particular quarter of the city called "Chowringhee," and the natives in another, called the "Black-town." The market of Calcutta is probably the largest one in the world.

Benares, the holy city of the Hindoos, and the capital of a province of the Bengal Presidency, lies on the north bank of the Ganges. It is a noted place of resort, on the occasion of certain festivals, for pilgrims from all parts of India. It is also celebrated for its trade in

diamonds. MADRAS, the capital of the Madras Presidency, is the chief commercial port on the east, or Coromandel coast.

PONDICHERRY, on the same coast, about 80 miles further south, is the capital of the French possessions in India.

GOA, a small maritime town on the Malabar coast, is the capital of the Portuguese possessions in India.

BOMBAY, the capital of the presidency of the same name, lies on Bombay Island, near the coast. Its trade is second only to that of Calcutta.

HYDRABAD, situated on a branch of the Indus and capital of the Province of Sinde, is noted for the manufacture of matchlocks, swords, spears, and shields, and also for embroidered silk and cotton goods.

LESSON CXXXIX.

BELOOCHISTAN.

Area in sq. miles, 150,000. Population, 2,000,000.

Geographical Position.—Beloochistan is situated in Southern Asia, between Persia and Hindostan.

Surface.—It is rugged and elevated, and deficient in water, which is absorbed by its deserts.

Soil, etc.—The soil is generally barren, and the climate among the mountains is cool; but in the plains and deserts, it is hot. Vegetable productions are not generally abundant. In the low and watered plains of the north-east, rice, sugar-cane, cotton, tobacco, and indigo are raised. Rhubarb and the assafœtida plant, abound in some districts; the latter is eaten by the inhabitants, stewed in rancid butter. The camel is the chief beast of burden.

Inhabitants, etc.—The inhabitants consist chiefly of Belooches and Brahoes. They dwell principally in rude tents made of goats' or camels' hair. Agriculture is not much pursued. The Brahoes inhabit the mountains, and rear large numbers of goats and black cattle. Trade is carried on mainly by means of caravans.

Towns.—KELAT, the capital, stands on an elevated plateau about 6,000 feet above the level of the sea, toward the north-east part of the country. The principal native ruler in Beloochistan is the Khan of Kelat; but his power is of limited extent, and many of the tribes are, in reality, independent of his control.

CHOUBAR is a small seaport town on the coast; and GUNDAVA is the usual winter residence of the Khan.

ARABIA.

Area in sq. miles, 834,000. Population, 12,000,000.

Geographical Position.—Arabia occupies a peninsula in South-western Asia, south of Asiatic Turkey.

Surface.—The coasts are generally low, but the interior of the country forms a series of high plateaus, mostly desert. There are no rivers nor forests, properly so called, in Arabia. Springs partly supply the place of the former.

Soil, etc.—In the valleys of the coast mountain-region the soil is fertile. The climate is generally hot and the driest in the world. The year is divided into two seasons,—the wet and the dry; but in some parts the dry season is prolonged during the entire year.

Among the plants of Arabia, coffee holds the first place; olives, almonds, filberts, dates, tamarinds, and various gums and drugs are produced in some parts in abundance. The horse and the camel of Arabia are highly esteemed.

The Arabs raise a sort of coarse millet, which forms their chief article of food; the other grains, except oats, are also cultivated to a limited extent. In feeding their horses, they use barley and beans instead of oats.

Inhabitants, etc.—The Arabs are divided into two classes, the dwellers in the towns, and the inhabitants of the desert; the latter are called Bedouins. They live in tents and lead a wandering life. There are several tribes in Arabia, each independent of the others, and governed by its own *sheik* or chief. The leading object of industry is the raising of camels, horses, goats, sheep, etc.

Traveling Facilities.—The caravans of pilgrims and other travelers who cross the Arabian deserts must buy the protection of the various tribes through whose territories they pass, as the only means of securing themselves against robbery and loss of life.

There are regular halting-places in the deserts, where the tents of travelers are pitched and the camels rest after their day's journey,—the ordinary length of which is from twelve to fourteen miles. Such are the facilities for traveling in Arabia.

Manufactures and Exports.—Manufactures are almost wholly unknown, except as a domestic pursuit among the women of the different tribes. The exports are coffee, dates, gum-arabic, myrrh, aloes, and various drugs; but coffee is the staple article of commerce.

Cities.—Mecca is situated in the western part of Arabia, about 50

miles from the Red Sea. It is celebrated as being the birth-place of Mohammed, and is supported by the pilgrims who annually resort to it in caravans, from every part of the Mohammedan world.

These different caravans bring with them the various productions of the countries from which they come, and, on the completion of the religious ceremonies of the journey, they engage in a great scene of barter.

Muscat, the largest city in Arabia, is situated on the south-east coast. It is the chief emporium of trade between Persia, Arabia, and India, and the capital of a state of the same name, which is governed by a sovereign called the Imaum, or Sultan. Medina is noted as being the burial-place of Mohammed.

Aden, on the south coast, belongs to the British, and is occupied by the East India Company, as a dépôt, for the supply of coal to the India packet steamers. For this purpose, immense quantities of coal are sent thither.

LESSON CXL.

ASIATIC TURKEY.

Area in square miles, 437,000. Population, 11,000,000.

Geographical Position.—*Asiatic Turkey, or Turkey in Asia, as it is sometimes called, is a large country of Western Asia, bordering on the Black and the Mediterranean Sea.

How Divided.—It is divided into several smaller countries; the chief of these are Asia Minor, or Anatolia, which occupies the peninsular portion of Western Turkey; the district watered by the Euphrates and Tigris, comprising Algezira, or Mesopotamia, and a part of Armenia; and Syria, situated south-east of Asia Minor, extending from the west bank of the Euphrates to the shores of the Mediterranean Sea. *Palestine*, or the *Holy Land*, is the southern part of Syria.

Surface.—The surface of Asia Minor is mountainous, with high table-land in the interior, and rich plains along the sea-coast. In Armenia, the surface is a succession of high mountain-chains and elevated valleys; in Mesopotamia, much of the land is desert; and in Syria, the western part is mountainous, and the eastern an elevated plain.

Soil, etc.—The soil is generally very fertile, and the climate cold

* Asiatic Turkey and Turkey in Europe form the Turkish, or Ottoman Empire.

and humid in the mountainous regions, but warm and delightful in the plains and valleys. The productions are various, both in the vegetable and animal kingdom.

Grain, cotton, coffee, tobacco, and a great variety of delicious fruits, are abundantly produced. The date-palm furnishes an important article of food.

Inhabitants.—The population is of a mixed character, embracing Turks, Greeks, Syrians, Jews, Arabs, Armenians, &c. Agriculture receives but little attention. In Asia Minor considerable care is bestowed upon the rearing of live-stock.

Traveling Facilities.—These are very defective; there are but few regular roads, and travelers are generally obliged to associate themselves into companies for mutual protection.

Manufactures and Exports.—Manufactures are not extensive. Among the productions of Turkish industry are caps of silk and gold thread, —silk sashes and cords,—silk-gauze shirts, veils, and cloaks,—slippers, tassels, turbans, divan-covers, and numerous other articles, of a highly ornamental character.

The exports are raw silk, cotton, goat's hair, raisins, and other dried fruits, dyewoods, a variety of drugs, and some articles of native manufacture.

Cities.—Smyrna, at the head of the Gulf of Smyrna, is a noted seaport of Asia Minor, and the chief commercial emporium of Western Asia. This city has a fine appearance when viewed from the sea, but its houses are chiefly of wood, and only one story in height; and its streets are narrow and dirty. Baths and mosques are numerous. Earthquakes are not unfrequent, and the *plague* often visits Smyrna.

Trebizond, the capital of the Pashawlic of Trebizond (a subdivision of Turkish Armenia), is an important fortified seaport on the Black Sea. Its trade consists principally in the exportation of the produce and manufactures of Asia Minor and Persia, and the importation of various articles, such as cotton goods and hardware from Great Britain; wines from France; corn and iron from Russia, &c.

Bagdad, the capital of the Pashawlic of Bagdad (a sub-division of Mesopotamia), is situated on the Tigris. It is noted for its manufactories of red and yellow leather.

Damascus is situated in a fertile plain of Syria, about 50 miles east of its port, Beyrout. It is six miles in circumference, and is surrounded by a dilapidated wall.

Jerusalem, a city of Palestine, lies between the Mediterranean

and the Dead Sea. It is interesting chiefly as being the seat of the most important events described in Scripture history.

GEORGIA.

Extent in square miles, 28,800. Population, 800,000.

Geographical Position.—This country lies south of the Caucasus Mountains.

Surface.—It is chiefly a hilly region, and a large portion of the surface is covered with forests.

Soil, etc.—The soil is fertile. The chief productions are wheat, maize, flax, and hemp.

Inhabitants, etc.—The population is composed of Georgians, Armenians, Jews, and Turks. Agriculture and the rearing of cattle are the chief sources of support.

The Georgians are a handsome race, and the beauty of their females is no less celebrated than that of the Circassians, who inhabit a neighboring province on the north side of the Caucasus Mountains.

TEFLIS, the capital, situated on the River Kur, is an important seat of trade. It is noted for its hot baths.

LESSON CXLI.

PERSIA.

Area in square miles, 450,000. Population, 9,000,000.

Geographical Position.—Persia (whose area exceeds that of France, Spain, and Portugal combined) lies east of Asiatic Turkey.

Surface.—The interior of Persia is an elevated plateau, a large portion of which is desert. Water is scarce.

Soil, etc.—The soil of the table-lands is barren, but that of the valleys is very fertile. In the north, the climate is cool; in the south, particularly along the Persian Gulf, the heats of summer are almost insupportable.

Hemp, silk, cotton, tobacco, rice, corn, and various fruits, drugs, and gums, are here produced. Rock salt is abundant, and sheep and cattle are numerous. In the north-eastern part of the country are some famous mines of turquoise,—a gem peculiar to Persia.

Inhabitants.—The *Parsees*, descendants of the ancient Persians, are few in number. Turks, Tartars, Armenians, Arabs, &c., compose the bulk of the population. Jews are numerous in all the towns. The

outskirts of Persia are infested by predatory tribes, whose warlike habits are a constant source of injury to the more civilized and settled portion of the inhabitants. On the north are the Tartars; on the east, the Afghans; on the south-west, the Arabs; and on the west, the Koords.

Traveling Facilities.—The roads are mere mule tracks; and land commerce is carried on chiefly by means of caravans.

Manufactures and Exports, etc.—Silk-fabrics, shawls of goats' hair, and leather, form the most important articles of manufacture.

Among the exports are dates, and other dried fruits, assafœtida, opium, saffron, pearls, turquoises, and various articles of native manufacture. The maritime traffic, carried on by way of the Caspian Sea, is entirely in the hands of Russia; that of the Persian Gulf belongs partly to the British, and partly to the Sultan of Muscat.

Ispahan, Persia.

Cities.—TEHERAN, the capital and residence of the sovereign, is situated on an elevated plain, about 70 miles south of the Caspian Sea. BALFRUSH, *near* the Caspian Sea, carries on considerable trade by means of its port. BUSHIRE, on the coast of the Persian Gulf, is the chief seaport of Persia.

Ispahan, situated in a fine plain, on the banks of the Zendarood —a river which flows eastwardly, and loses itself in the sands of the desert—is the seat of considerable manufactures and an important inland trade. Its artisans are esteemed the best in Persia.

INDEPENDENT TURKESTAN.

Area in sq. miles, 720,800. Population, 6,000,000.

Geographical Position.—Independent Turkestan (or Tartary, as it is sometimes called) lies west of the Chinese Empire.

How Divided.—Turkestan is divided into several independent *Khanats*, or States, in each of which the ruler is styled the Khan. The principal Khanats are Khokan in the east, Bokhara in the south, and Khiva in the centre.

Surface.—The greater part of Turkestan is an immense plain, with a gradual slope toward the Sea of Aral. The eastern and south-eastern portions are penetrated by branches of the Thian Shan, the Hindoo Koosh, and other mountain ranges of Central Asia. These parts contain many well-watered valleys.

Soil, etc.—The soil in some of the valleys is fertile, and the climate is subject to great extremes. Violent storms, accompanied by tornadoes, are of frequent occurrence in the open steppes.

Cotton, silk, wool, corn, and fruits, are among the chief productions. In the south-eastern part of the country are mines of rubies, and a blue stone, called *lapis lazuli*.

Inhabitants, etc.—The inhabitants are chiefly of Tartar origin. The tending of flocks and hunting form important occupations of some of the tribes. Agriculture is pursued in some parts.

Traveling Facilities.—These are similar to those of Persia.

Manufactures and Exports.—There are few manufactures, but some silk and cotton stuffs are made in the towns, also sabres, knives, and other weapons. The chief exports are hides, horses, furs, and wool.

The geographical situation of Turkestan makes it a common field for the exchange of the productions of China and India for those of Russia; consequently, an extensive caravan-traffic is here carried on.

Cities.—Khokan, the capital of the Khanat of Khokan, is situated on the south side of the Sihon.

Bokhara, the capital of the Khanat of the same name, lies in a fertile valley, surrounded by gardens and orchards. It is noted for

its numerous schools—this city being the best endowed seat of Mohammedan literature in Asia. The sciences taught are chiefly Mussulman theology and law.

LESSON CXLII.

AFGHANISTAN.

Area in square miles, 300,000. Population, 5,000,000.

Geographical Position.—Afghanistan, a country of Central Asia, lies south of Independent Turkestan.

Surface.—Four-fifths of the surface consist of rocks and mountains.

Soil, etc.—The soil and climate much resemble those of Independent Turkestan. Tobacco is extensively grown, and madder is also an important product. Fruits are plentiful in the vicinity of Cabul. Sheep and goats are abundant, producing a fine wool, used in the manufacture of shawls. Agriculture is in a rude state.

Inhabitants.—The inhabitants consist of Afghans proper, and numerous other races.

Traveling Facilities.—These are similar to those of the neighboring countries.

Manufactures and Exports.—The manufactures are unimportant. They are confined chiefly to cotton and woolen stuffs for home consumption, and some fire-arms, saddlery, and cattle-trappings.

Horses are reared in great numbers, and exported to India. The transit trade is considerable, and is carried on by means of camels and horses, as the roads are not adapted to wheeled vehicles.

Cities.—Herat, the capital of the district of Herat, situated in a fine valley, is the chief emporium of the trade between Persia and Hindostan.

Cabul, the modern capital of the Afghan monarchy, is located on the Cabul River, a branch of the Indus. The markets of this city are famous in the east for their supply of vegetables and fruit.

ASIATIC ISLANDS.

KURILE ISLES.—This range of small islands in the North Pacific extends from Kamtchatka to Japan, and contains an area of about 3,000 square miles.

Three of the islands lying near Japan belong to that empire, and the remainder to the Russian government of Irkutsk, to which the inhabitants pay an annual tribute of furs. Hunting and fishing are the chief employments.

SAGHALIEN.—This long, narrow island lies east of Manchooria. It is but little known. The inhabitants subsist chiefly by fishing. The Chinese claim the northern, and the Japanese the southern part.

REMARK.—Saghalien is supposed by some to be *entirely* separated from Continental Asia by the Channel of Tartary, while others contend that it is connected with the continent by a narrow isthmus.

A Japanese Scene.

THE JAPAN ISLES.

Area in square miles, 270,000. Population, 25,000,000.

These islands, constituting the Empire of Japan, lie directly east of Continental Asia.

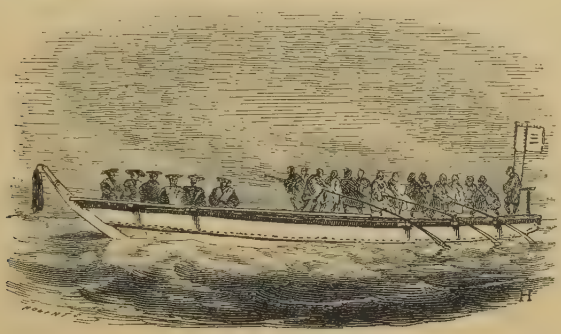
Soil, etc.—Their interior has not been explored by Europeans. The soil is said to be sterile, but carefully cultivated. The climate is subject to great extremes of heat and cold. The islands are believed to be very rich in mineral products.

Inhabitants, etc.—The Japanese bear some resemblance to the Chinese, and are supposed to belong to the Mongolian race. Agriculture is carried to a high degree of perfection, and manufactures receive considerable attention.

The Japanese are noted for their works in iron, copper, and steel; and the art of japanning is practised by them with great success.

This vast empire formerly treated only with the Chinese and Dutch, and prohibited all other intercourse under pain of death.

The only port open to these nations is that of Nangasaki. By a recent agreement between the United States and the Japanese Empire, two ports (Hakodadi and Simoda) have been opened for the accommodation of American vessels, etc.



A Japanese Boat.

Cities.—Jedo, the capital, is situated on the Island of Niphon at the head of Jedo Bay. It is a large, densely-populated city, and is noted as being the residence of the military emperor of Japan. A part of this city has recently been destroyed by an earthquake.

Miaco, located in the southern part of the Island of Niphon, is the chief seat of learning, and the principal manufacturing city in the empire. The ecclesiastical, or spiritual, sovereign of Japan resides in this city.

LOO CHOO ISLANDS.—This group, consisting of the Great Loo Choo Island, about 65 miles in length, and 35 smaller islands, lies in the Pacific Ocean between Japan and Formosa. They are nominally subject to the Japanese Empire. The chief products are provisions and live-stock, together with sulphur and salt.

FORMOSA.—This large island lies about 90 miles east of China Proper. The western part is inhabited by Chinese colonists, and the eastern by the native Formosans, who are of the Malay race.

Domestic fowls are plentiful, and the finest deer wander in large herds over the island. Sugar, rice, and camphor are exported in great quantities to China.

HONG KONG, a small island, lying at the mouth of an estuary that leads to Canton, belongs to the British. VICTORIA, the capital, lies on a fine bay, on the north side of the island.

HAINAN, a large island belonging to China, lies between the Gulf of Tonquin and the Chinese Sea. Timber is the chief product; rice and sweet potatoes are extensively cultivated. The population is supposed to amount to a million of Chinese, besides some wild tribes in the interior.

KIANG-TCHOU, the capital, situated on its north coast, is a large city, and carries on considerable trade with Macao.

SINGAPORE, an island lying south of the Malay Peninsula, belongs to Great Britain. The town of Singapore, on the south side of the island, is an important commercial station.

NICOBAR and ANDAMAN ISLANDS.—The former group lies in the Indian Ocean west of Malaya; the latter, in the Bay of Bengal. These islands are very fertile, and are inhabited by a race of savages.

Ships from the coast of India often touch at the Nicobar Isles, in order to procure cocoa-nuts, which are purchased at the rate of four for a leaf of tobacco, and 100 for a yard of blue cloth. Tobacco is the current medium of exchange and barter. Yams and oranges are abundant.

CEYLON, a large and valuable island, is a dependency of the British Crown. The population amounts to about 1,500,000, a very small portion of whom are of European descent. Among the many productions of Ceylon, the two most noted are the cocoa-nut palm and the cinnamon tree.

Precious stones are found in some parts, and there is a valuable pearl-fishery on the Gulf of Manaar. Among the quadrupeds, the elephants are the most noted. Insects and reptiles are exceedingly numerous, and the marshes abound with leeches.

COLOMBO, the capital and chief seaport of Ceylon, is located on its west coast.

MALDIVE and LACCADIVE ISLANDS.—These consist of numerous groups of coral formation, lying in the Indian Ocean west and south-west of Hindostan.

They are inhabited by Mohammedans. The Maldive Islands are ruled by a sultan, who pays an annual tribute to the British Government in Ceylon. The most valuable product is *cowries*, a species of shells, current in the East as money.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE COUNTRIES OF ASIA.

(Relating chiefly to Siberia, the Chinese Empire, and India.)

LESSON CXLIII.

1. In what part of Asia is Siberia? What is the general character of its surface? By whom is it inhabited? Describe the climate. What are the chief resources of the country? Mention the capital cities. Of what empire does Siberia form a part?

2. What countries are included in the Chinese Empire? What in Chinese Tartary? What waters nearly surround the Peninsula of Corea? To whom does that kingdom pay tribute?

3. How does China Proper compare in size with the New England States? What plant is a noted production of China? About how much tea is exported annually? What grain is extensively cultivated here? What other productions in China?

4. Of what race are the Chinese? What are the traveling facilities in China? What are the leading industrial pursuits? How long is the Imperial Canal? In what manufactures do the Chinese excel?

5. What city is the capital of the Chinese Empire? How is it situated? Of what does it consist? In what city is the Imperial Palace? Mention the five free ports of China. What do you understand by free ports?

6. What city is largely engaged in the tea trade? What island near the entrance of the Canton River? Hong Kong. To whom does it belong? To Great Britain. How is Thibet bounded? What is the chief pursuit of the inhabitants? For what is Lassa noted?

7. What countries does India comprise? What is Indo-China sometimes called? How is this peninsula divided? What is the general character of the surface? Is the peninsula well wooded? What forms the chief crop? How is agriculture conducted?

8. How are the houses generally constructed? Are the roads good? In what do the Birmans excel? What are the leading exports from the Indo-Chinese Peninsula?

9. What city is the capital of Anam? Of Siam? Of the Tenasserim Provinces? Of Birmah? What city is the chief commercial port of Birmah? How is Hindostan bounded? How does this country compare with Europe, in extent? How is Hindostan divided? How many Presidencies do the British Territories comprise?

10. In what part is the Bengal Presidency? In what part the Madras? The Bombay? Where are the Protected States chiefly situated? Mention

the Independent States. What nations besides the British have settlements in Hindostan?

11. Under what government is the greater part of Hindostan? How is the surface of Northern Hindostan? What is the physical character of the Malabar coast? Of the Coromandel coast? How is the interior? What is the general character of the soil? How is the year divided with respect to seasons? For what remarkable tree is India noted? Mention some of the productions of India.

12. What is the leading industrial pursuit in Hindostan? How is agriculture conducted? How are the traveling facilities? What form the leading exports? Is India extensively engaged in manufactures? What city is the capital of British India?

13. Of what presidency is it the capital? How is it situated? In what direction is Benares from Calcutta? For what is Benares noted? What city is the capital of the Madras Presidency? Of the Bombay Presidency? How is it situated? What town is the capital of the French Possessions in India? Of the Portuguese Possessions? Which one is on the Malabar coast?

14. What important rivers in Hindostan? In the Chinese Empire? In Siberia? Of these, which flow into the Bay of Bengal? Which into the Arabian Sea? Which into the Yellow Sea? The Blue Sea? The China Sea? Which extends further south, Further India or Hindostan? China Proper or Thibet? What mountains between Hindostan and Thibet? For what are they noted? They are noted as being the highest mountains in the world. What is the western part of Thibet called?

15. Mention the chief branches of the Obe. What river is the outlet of Lake Baikal? Of what river is it an affluent? Mention the chief branches of the Lena. What sea west of Kamtchatka? What sea east? What town on the east coast of Kamtchatka? For what noted? As being the principal Russian military station in this part of Asia.

LESSON CXLIV.

REVIEW QUESTIONS.—(CONTINUED.)

(Relating chiefly to Beloochistan, Arabia, and Turkey.)

1. How is Beloochistan bounded? What city is the capital? How is it situated? By what people is Beloochistan chiefly inhabited? Do they pay much attention to cultivating the soil? What is the leading pursuit among the Brahoes? What animal is the chief beast of burden in Beloochistan? What plants are numerous in this country?

2. Describe the climate. In what direction is Arabia from Beloochistan? From Turkey? From Egypt? What sea bounds Arabia on the west? Are

there any rivers in Arabia? Any forests? Describe the coasts. What is the general character of the surface of the interior? Describe the climate. How is the year divided? Mention the most important plant of Arabia.

3. What animals are much esteemed by the Arabians? What forms the chief article of food to the Arabs? How do the Arabs live? What facilities are afforded for traveling through Arabia? Is Arabia a manufacturing country? What form the chief exports?

4. For what is Mecca noted? Is there any city that is the capital of the whole of Arabia? No. Of what state of Arabia is Muscat the capital? The Imamat of Muscat. Of what Sana? Of Yemen. Of what Mecca? Of the Hedjaz. Where is Mount Sinai?

5. What town in Arabia belongs to the British? Of what service is this town to the British? Mention the largest city of Arabia. How is Turkey in Asia divided? What is the character of the surface of Asia Minor? By whom is Asiatic Turkey chiefly inhabited? What is the character of the soil? The climate? For what manufactures is Turkey noted?

6. In what part of Asiatic Turkey is Syria? In what part of Syria is Palestine? Where is Damascus? Jerusalem? What river empties into the Dead Sea? Where is Beyrout? Acre? Bethlehem? Hebron? Joppa? Gaza? Where is Lake Tiberias? On which side of the Bay of Acre is Mount Carmel? Mention the chief commercial city of Turkey. Describe

Smyrna. What important seaport on the Black Sea? In what does its trade chiefly consist?

7. What city on the Bosporus, opposite Constantinople? How is Persia bounded? What three countries of Europe does it exceed in size? What is the general character of the surface? Of the soil? Of the climate? What mineral is abundant? What gem is found here? By whom is Persia inhabited?

8. By whom are the outskirts of Persia inhabited? Has Persia introduced any of the modern traveling facilities as yet? How is commerce chiefly carried on? For what manufactures is Persia noted? For what exports? What city is the capital of Persia?

9. What city is the chief seaport of Persia? Where is Independent Turkestan? How is it divided? Is there any city that is the capital of the whole of Independent Turkestan? No. Where is the sea of Aral? What precious stones are found in some parts of Turkestan?

10. What rivers empty into the Aral Sea? What sea lies north of Persia? North of Asiatic Turkey? Where is Bokhara? Khokan? Samarcand? How is Afghanistan bounded? What city is the capital of the Afghan Monarchy? Of what is Herat the capital?

11. What bounds Independent Turkestan on the north? Siberia on the north? On the east? What chain of islands extends from Kamtchatka to Japan? To whom do they belong? What are the chief resources of the inhabitants? Where is Saghalien? By what nations is this island claimed?

12. Where are the Japan Islands? To what race are the Japanese supposed to belong? What city is the capital of the Japanese Empire? What city is the residence of the spiritual sovereign? What two ports are open to American vessels?

13. Where are the Loo Choo Isles? What large island east of China Proper? By whom is it inhabited? Where is the small island of Hong Kong? To whom does it belong? What island east of the Gulf of Tonquin? To whom does it belong? Where is Singapore? To whom does it belong?

14. Where are the Nicobar Isles? The Andaman? By whom are they inhabited? For what production are these islands noted? Where is Ceylon? What are its chief productions? What towns in Ceylon?

15. Where are the Maldive Isles? What group north of these? For what product are these isles noted? What do they pass for in the East? Mention the largest country in Asia. By what races is Asia inhabited?

16. What peninsulas in Asia? What important mountain ranges? Name the countries of Asia in order. Has Afghanistan any sea coast? Name the seas that indent the coast of Asia. Mention the largest two rivers in Asiatic Turkey. What river do they form? The Shat-el-Arab. Into what gulf does this river empty?

AFRICA.

LESSON CXLV.

MAP STUDIES.—Systematically Arranged.

Mention the Boundaries of the following Countries, viz.:—Morocco, Algiers, Tunis, Tripoli,—Barca, Fezzan,—Egypt, Nubia, Abyssinia, Somauli Territory, Zanguebar, Mozambique, Zoolu Country, Natal Colony, Caffraria, Cape Colony, Hottentot's Country, Country of the Cimbebas and Damaras, Lower Guinea, Upper Guinea, Liberia, Sierra Leone, Senegambia, Sahara, Soudan, and the Country of the Bechuanas.

PART II.

State the situation of the following Cities and Towns, viz.:—Tangier, Ceuta, Tatta, Mogador, Morocco, Mequinez, and Fez,—Tlemsen, Oran, Algiers, Bona, and Constantine,—Tunis, Kairwan, Cabes,—Tripoli, Mesurata, Gadamis,—Bengazi, Derne, Mourzouk,—Alexandria, Rosetta, Damietta, Cairo, Suez, Kenneh, Cossier, Asswan, Esneh, Girgeh, Siout, *Minieh, and Siwah,—Derr, Souakin, Sennaar, Khartoom, Shendy, New Dongola, and Selimeh.

PART III.

State the situation of the following Cities and Towns, viz.:—Massouah, Gondar, Ankobar,—Hurrur, Zeyla, Berbera,—Magadoxo, Juba, Lamoo, Melinda, Mombaz, Zanzibar, Quiloa, Mozambique, Quilimane, Sofala,—Pieter Maritzburg, King William's Town, George Town, Zwellendam, Simon's Town, Cape Town,—St. Felipe de Benguela, Loando, St. Salvador, Loango,—Benin, Abomey, Coomassie, Cape Coast Castle, Elmina,—Bassa Cove, Monrovia,—Free Town,—Benown, Timbo, or Timboo, Bathurst, and St. Louis.

State in what part of the Great Desert are the following Towns, viz.:—Bilma, Agades, Aroan, Tisheet, Taudeny, and Agably.

State in what part of Soudan are the following Towns, viz.:—Timbuctoo, Lari, Wara, Cobbe, Yola, Katunga, Boossa, Sego, Jenne Sayi, Zaria, Kano, Kouka, and Mesna.

State in what part of Africa, and on or near what river is each of the following Towns, viz.:—Bellenia, Kobinga, Tuonobis, Libabe, and Milemba.

State the situation of the following Towns, viz.:—Kurrichane, Mashow, and Lattakoo.

* See small Map of Isthmus of Suez.

LESSON CXLVI

MAP STUDIES.—Systematically Arranged.

Describe the following Islands, viz.:—Socotra, Seychelle, Amirante Comoro, Madagascar, Mauritius, Bourbon, St. Helena, Ascension, Cape Verde, Canary, Madeira, and Azores.

Describe the following Capes, viz.:—Bon, Guardafui, Delgado, Corrientes, Agulhas, Good Hope, Frio, Lopez, Palmas, Verde, and Blanco.

Describe the following Mountain Ranges, viz.:—Atlas, Black, Moon (sometimes called Lupata), Snow ('n Cape Colony), and Kong.

Describe the following Peaks, viz.:—Kenia and Kilimandjaro.

PART II.

Describe the following Gulfs and Bays, viz.:—Cabes, Sidra, Aden, Sofala, Delagoa, Algoa, False, St. Helena, Guinea, Bight of Biafra, and Bight of Benin.

Describe the following Channel, viz.:—Mozambique.

Describe the following Lakes, viz.:—Dembea, Nyassi, Ntewetwe, Ngami, Tsad, or Tchad, and Fittre.

*Describe the following *Rivers, viz.:*—Nile, White, Bahr el Adda, Tubiri, Sobat, Blue, Tacazzi, or Tacazze,—Haines, Juba, Matoni, Liouma, Zambeze, Sesheke,—Limpopo, Orange, Yellow, Black,—Swakop, Nourse, Coanza, Dande, Congo, Quango,—Cameroons, Niger, Tchadda, Faro, Benue,—Nunez, Gambia, Senegal, Yeoo, Shary, and Malopo.

Mention the principal Islands of the following Groups, viz.:—Comoro, Cape Verde, Canary, Madeira, and Azores.

State the situation of the following Island Towns, viz.:—Tamatave, Bembatooka, Tananarivo,—Port Louis, St. Denis, and Jamestown.

LESSON CXLVII.

AFRICA.

Area in sq. miles, 12,940,000. Population, 61,000,000.

Geographical Position, etc.—Africa occupies the south-western part of the Eastern Continent. Its length, from Cape Bon on the north,

* On examining the Map of Africa in the accompanying Atlas, you will find many of the rivers shown by dotted lines, which indicate their *supposed* course, or courses. There are also several streams not named, which is owing to the imperfect knowledge we have, as yet, of this grand division of the earth.

to Cape Agulhas on the south, is about 5000 miles; and its breadth, from Cape Guardafui on the Indian Ocean, to Cape Verde on the Atlantic, is about 4800 miles.

Physical Characteristics.—Although much of Africa is yet unexplored, it is known that it contains a greater portion of desert land than either of the other grand divisions of the earth.

It is supposed that the surface rises in successive terraces from the coast, forming, in the interior, an immense plateau.

Africa presents, throughout its whole extent of coast-line, a very regular contour, unbroken by any large peninsulas, bays, or gulfs, and clear of islands.

Inhabitants, History, etc.—With the exception of the northern portions, and some settlements and colonies that have been established on the coast, this country is inhabited by various Negro tribes. They are for the most part in a barbarous condition.

The inhabitants of Northern Africa belong chiefly to the Caucasian race. The history of the greater part of this (to us) mysterious country, is yet enveloped in darkness. Its physical as well as political divisions, are but little known.

We have no satisfactory information respecting its rivers, its lakes, or its mountain ranges, nor any reliable statistics of its kingdoms and towns. The actual existence of some of the latter is a matter of conjecture rather than certainty, and many of the boundary lines laid down on the maps of this country are necessarily mere approximations.

THE EMPIRE OF MOROCCO.

Area in sq. miles, 223,000. Pop. 8,500,000.

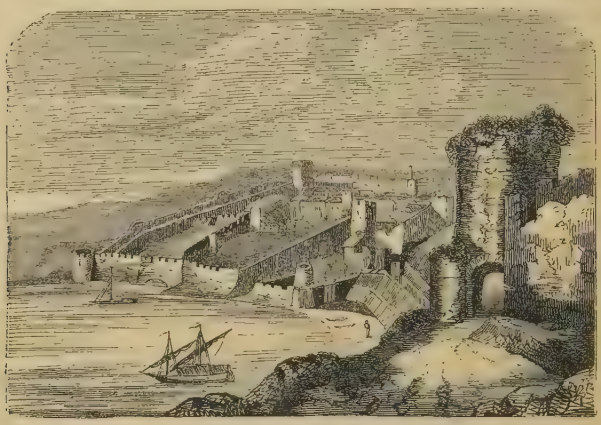
Geographical Position.—Morocco, the most important of the Barbary States, occupies the north-western extremity of Africa.

Surface.—The surface is mountainous, interspersed in some parts with fine plains and valleys. Along the coasts are some shallow pools, which evaporate in the hot season, leaving behind considerable quantities of salt. The surface is watered by several streams, most of which become dry in hot weather. This is also the case with the other states of Barbary.

Soil, etc.—The soil is celebrated for its fertility, and the climate, in the higher parts of the country, and on the sea-coasts, is mild and healthy. The dry and rocky table-lands of the interior abound in scattered groves of cork-trees and ever-green oaks. Olive trees are

plentiful, and fruits of almost every kind are abundant. Grain, sugar-cane, cotton, and tobacco, are raised in considerable quantities.

Timber suitable for building purposes is scarce. Minerals are not abundant. Horses, sheep, and goats, are exceedingly numerous.



Tangier, Morocco.

Inhabitants, etc.—These are chiefly * Moors, Jews, † Berbers, and Arabs. The Jews and Moors inhabit the cities, and conduct the mercantile transactions; the Berbers are engaged mostly in agriculture; and the Arabs generally lead a wandering life on the plains, and subsist on their herds and flocks. Agriculture is rudely conducted. Some of the merchants are largely engaged in trade with Arabia, and also with the Negro tribes south of the Desert of Sahara.

Traveling Facilities.—These are very inferior. Inland commerce is carried on by means of caravans.

Manufactures and Exports.—Carpets, cloth-caps, leather, earthenware, and some silk fabrics, are among the chief articles of manufacture. The exports are fruits, wax, olive-oil, wool, carpets, hides, skins, gum, indigo, salt, leather, and leeches.

Cities.—Morocco, the capital of the empire, stands in the midst of a fertile plain on the north side of the Atlas Mountains. It is about six miles in circuit, and is surrounded by a wall thirty feet in height

* The Moors are a mixed race.

† The Berbers are the most ancient inhabitants of Northern Africa.

The streets are narrow, and the houses are of one story and generally white-washed. Mosques are numerous, and some of them are noted for their architectural beauty.

Tangier, a seaport town on the Strait of Gibraltar, is engaged chiefly in trading with ports on the Spanish coast.

Mogador, situated on the Atlantic coast, is the chief seaport of the empire.

Mequinez is noted as containing a palace, in which the emperor occasionally resides.

Fez, distant about 100 miles from the Atlantic, is celebrated for its trade in red and yellow morocco leather, and for the manufacture of silk and gold sashes.

ALGIERS, OR THE COLONY OF ALGERIA.

Area in sq. miles, 90,000. Population, 2,500,000.

Geographical Position.—Algiers, a colony of France, and one of the Barbary States, extends along the Mediterranean coast for about 600 miles, between Morocco and Tunis.

Surface.—The surface is chiefly mountainous, and the coast is deficient in good ports.

Soil, etc.—Between the principal mountain chain and the coast are many fertile valleys, which include nearly all the cultivable portions of the colony. The climate, north of the mountains, is temperate and healthy.

The productions are similar to those of Morocco, with the exception of sugar-cane and cotton. Pomegranates are abundant. The coral and sponge fisheries on the coast, are valuable. Iron, copper, and lead, are the chief minerals.

Inhabitants, etc.—These are mainly Berbers, Jews, Moors, Turks, Arabs, and Negroes, together with some French and other European settlers. The natives are exceedingly ignorant and indolent. Since the country has been under French domination, more attention has been paid to agriculture, mining, and manufactures. The ore taken from the mines is shipped to France to be smelted.

Traveling Facilities.—Since the French have had possession of the territory, they have constructed about 5,000 miles of good road.

Manufactures and Exports.—The chief manufactures are linen, woolen, and silk fabrics, saddles, carpets, hardware goods, and some coarse pottery.

The textile fabrics are made generally by the women. Among the leading exports are coral, skins, bones, horns, wool, wax, oil, ostrich feathers, and barks for tanning purposes.

Cities.—ALGIERS, the capital, located on the Bay of Algiers, is the seat of the governor-general of the colony. This city has regular steam communication with Marseilles and several other ports of Southern Europe.

CONSTANTINE, situated in the north eastern part of Algiers, carries on an active trade in the products of Central Africa.

LESSON CXLVIII.

TUNIS.

Area in sq. miles, 70,000. Population, 2,500,000.

Geographical Position, etc.—Tunis, one of the Barbary States, borders on the Mediterranean, between Algiers and Tripoli.

Surface.—The coast line is very irregular, and the interior is but little known.

Soil, etc.—The soil is highly fertile, and the climate temperate and healthful. The chief productions are grain, olives, tobacco, and almost all the fruits that are common in Southern Europe. Drugs, dyes, cotton, indigo, and saffron, are cultivated to a considerable extent. Date plantations furnish the chief food of the people.

Inhabitants, etc.—The inhabitants consist chiefly of Arabs, Jews, Turks, and Moors. Agriculture is much neglected. Many of the people lead a pastoral life.

Traveling Facilities.—These are quite inferior. Mules and camels are generally used as beasts of burden. Caravans come annually, from Central Africa, bringing slaves, gold-dust, gum, ivory, senna, and ostrich-feathers, which are exchanged for manufactured goods, spices, gunpowder, etc.

Manufactures and Exports.—The principal manufactures are red woolen caps, embroidery, leather, boots, slippers, soap, and essences. Oil, wood, sponges, red caps, soap, and essences, together with the surplus produce received from Central Africa, form the leading exports.

Cities.—TUNIS, the capital of the beylik of Tunis, is located on a gulf of the same name. It is the largest commercial city of Barbary. Tunis is under the government of a bey and is therefore styled a *beylik*.

KAIRWAN, situated about 80 miles south-east of Tunis, is noted for its manufactures.

TRIPOLI.

Area in sq. miles, 140,000. Population, 1,500,000.

Geographical Position.—Tripoli, one of the Barbary States, is understood to include Barca and the district of Fezzan. It lies between the Mediterranean Sea and the Great Desert.

Surface.—The interior of the country is but little known. In the eastern part, are extensive tracts of almost barren sands; in the southern, the surface is mountainous, and in the western, diversified.

Soil, etc.—The soil is generally fertile. Droughts prevail from May to September, and during this period the heat is intense. The productions are similar to those of Tunis.

Inhabitants.—The towns are inhabited chiefly by Moors and Jews, while the rural population consists mainly of Arabs.

Traveling Facilities.—These are similar to those of Tunis.

Manufactures and Exports.—Among the leading manufactures are carpets, cloaks, articles made of goats' hair, leather, potash, and coarse earthenware. The exports consist mainly of the surplus products of the date and olive plantations, together with manufactured goods Rock salt is an important article of export; and cattle, sheep, and poultry are sent to Malta.

Cities.—TRIPOLI, situated on the Mediterranean coast, is the capital of the pashawlic of Tripoli, and carries on considerable trade with the interior of Africa. It is about 600 miles south-east of Algiers. Tripoli is governed by a pashaw, who is nominally subject to the Turkish Empire.

BARCA, is a dependent province of Tripoli, and is inhabited chiefly by Bedouin Arabs.

FEZZAN, a state of Northern Africa, is ruled by a Sultan, who holds his dominions as tributary to the Pashaw of Tripoli, to whom he pays an annual tribute.

The Fezzaneers, who appear to be a mixed race intermediate between the Arab and the Negro, amount to about 75,000. Some are as black as Negroes and others are as white as the Moors on the Barbary coast. Figs, pomegranates, lemons, and garden vegetables, are plentiful. Dates form, not only the chief produce of the country, but the principal food of its inhabitants.

MOURZOUK, the capital, is noted as being the place of rendezvous

for caravans to and from the Barbary States, Egypt, and Central Africa.

EGYPT.

Area in square miles, 224,000. Population, 2,896,000.

The Flag of Egypt.

Geographical Position.—Egypt, an important kingdom of North-eastern Africa, lies between Nubia and the Mediterranean Sea.

Surface.—The great feature of Egypt is the River Nile, without which the whole country would be a desert. The valley of this river is very narrow, being shut in by high rocks, beyond which on either side it is mostly desert.

Soil, etc.—The soil of the valley of the Nile is rendered exceedingly fertile by the annual inundations of the river. The climate of Egypt is hot and dry. It never snows, and rain is of rare occurrence. Grain, cotton, rice, indigo, and various kinds of drugs and fruits, are among the chief productions.

Dhourra (a kind of grain) is extensively cultivated. It is sometimes eaten like Indian corn, being previously roasted in the fire; its stalk is eaten green, like the sugar-cane; its dried pith is used as starch, and the leaves serve as food for cattle. This grain and beans are the principal objects of culture. The latter are sold boiled in all public places, and also serve as food for the camels.

Large plantations of mulberry-trees have been recently made for the purpose of rearing the silk-worm. In some parts of Western Egypt roses are very plentiful, and from these rose-water is abundantly distilled.

Sheep and goats are extensively reared. Bees are kept in great numbers in boats; they spread themselves over the banks of the Nile during the day in quest of food, and return regularly to the boats every evening. The Nile abounds in fish.

Inhabitants, etc.—The great majority of the inhabitants (called Fellahs) are of Arabic descent, and are engaged as peasants and laborers: the remainder embrace Copts, Turks, Greeks, Jews, etc. The Turks hold the principal offices under government. Agriculture forms the

leading pursuit. The manufacture of jars and porous earthenware is an important branch of industry.

Antiquities.—In ascending the Nile, the traveler beholds here and there specimens of ancient art, embracing pyramids, temples, colossal statues, obelisques, and sphinxes, together with a variety of sculptures and paintings on the walls of the temples, and caves cut out of the rocks, upon either side of the river's course.

South-west of Cairo, on the opposite bank of the Nile, is the small town of Ghizeh, about five miles to the south-west of which are the three principal Egyptian pyramids. The largest, called the "Pyramid of Cheops," is 480 feet in height, and its base covers eleven acres of ground.

The Pyramids, near Ghizeh.

Traveling Facilities.—Great attention was given by Mohammed Alei, the late pashaw, to internal improvements. New roads were made, canals were constructed, and a railway between Alexandria and Cairo was commenced.

The *overland route*, as it is called, between Europe and India, is by steamers, which proceed up the Mediterranean Sea to Alexandria, thence by canal to Cairo, and thence to Suez by a good road over the desert in wheeled vehicles, something like our stages; at Suez, the route by steamers is resumed, and the vessels proceed to the various ports of India, touching on the way at Aden (a seaport in the southern part of Arabia) for a fresh supply of coal.

Manufactures and Exports.—Manufactures are not extensive, though there has been of late a new impetus in this direction. Egypt, however, has not the essential elements for a manufacturing country, since it contains neither coal nor iron.

The chief manufactures are linen goods, carpets, silk-handkerchiefs, jewelry, and pottery. The leading exports are cotton, rice, wheat, rose-water, indigo, senna, dates, opium, coffee, gums, porous earthen-jars, matting, and carpets. Of these, cotton is the most important.

Cities.—CAIRO, the capital of Egypt and the largest city in Africa, is situated a short distance from the east bank of the Nile. The streets of the city are very narrow, many of them not being wide enough to admit of two camels' passing abreast.

ALEXANDRIA, situated near the westernmost branch of the Nile, on the Mediterranean, is a celebrated city and seaport of Egypt. It is about 100 miles from Cairo, with which it communicates by canal and railway.

DAMIETTA, on the east branch of the Nile, is engaged chiefly in the coasting trade with the ports of Syria.

COSSIER, a seaport town on the Red Sea, is noted as being the entrepôt of the trade between Egypt and Arabia.

LESSON CXLIX.

NUBIA.

Area in square miles, 320,500. Population, 500,000.

Geographical Position.—Nubia, a country under the dominion of Egypt, lies between it and Abyssinia.

Surface.—It is similar to that of Egypt. Between the White and Blue Rivers are extensive fertile plains.

Soil, etc.—The soil and climate are also like those of Egypt. The chief productions are dhourra, barley, cotton, indigo, senna, coffee, and dates. Ebony trees are numerous. Besides the animals found in Egypt, such as the horse, camel, mule, etc., Nubia has the giraffe, the ostrich, and several species of antelopes and birds which are common in Central Africa.

Inhabitants, etc.—The Nubians belong to the Arabian and Negro races. Dhourra is almost the only grain cultivated, and with the fruit of the date forms the chief article of subsistence. Small looms are sometimes seen in the houses; with these the women weave very coarse woolen and cotton cloth. From the leaves of the date-tree

they form mats and bowls. Some trade with the interior is carried on, the traffic in slaves being the most important.

Traveling Facilities.—These are very inferior. The camel is the chief beast of burden.

Manufactures and Exports.—Manufactures are limited to a few articles for domestic use, and the exports consist mainly of products received from Central Africa.

Cities.—KHARTOOM, the modern capital of Nubia, is situated on the west bank of the Blue Nile, about one mile above its junction with the White. It is a place of rendezvous for the slave caravans from Soudan and Abyssinia, and the residence of the viceroy of Nubia.

SOUAKIN, situated on the west coast of the Red Sea, has a good harbor, and is an important station for pilgrims passing to and from Arabia.

ABYSSINIA.

Area in sq. miles, 280,000. Population, 3,000,000.

Geographical Position, etc.—Abyssinia, an imperfectly known country of Africa, lies south of Nubia and west of the Red Sea. It is divided into several states.

Surface.—It is mountainous and well watered.

Soil, etc.—The soil is remarkable for its fertility, and furnishes, without cultivation, many of the finest vegetable productions of the torrid zone. The climate is intensely hot in the valleys, but in the elevated districts it is mild. *Teff* (a herbaceous plant), from which bread is made, is the favorite article of food.

Cotton, flax, and coffee, are cultivated to a limited extent. Most of the wild animals indigenous to Africa are found in the mountains of Abyssinia. Great numbers of hippopotamuses are killed annually on the shores of Lake Dembea. Crocodiles infest the rivers. Bees are numerous, and their honey forms an important article of food.

Inhabitants, etc.—The inhabitants embrace many distinct tribes, most of whom are in a barbarous condition.

The Abyssinians embraced Christianity in the time of Constantine; at the present day, however, there are but few traces of their former faith left. They are now much debased by savage practices.

The ferocious Gallas (inhabitants of a neighboring state) have overrun great portions of the country and possessed themselves of some of its finest provinces.

Manufactures and Exports.—Manufactures are limited chiefly to the

tanning of leather, and to the making of a few articles of coarse cotton and woolen goods, and some descriptions of hardware,—such as sword-blades, spear-heads, etc.

The commerce of the country has been greatly reduced by the continued prevalence of internal warfare. The chief exports are gold-dust, ivory, and slaves.

Cities.—GONDAR, the capital of the State of Amhara, which comprises all the country west of the Tacazzee River, is situated on an elevated plain about 20 miles north-east of Lake Dembea. This city and state are now in the hands of the Gallas.

ANKOBAR, the capital of Shoa (a southern state of Abyssinia), lies 300 miles south-east of Gondar.

EASTERN AFRICA.

REMARK.—Under this head we shall include the countries bordering on the coast, between Abyssinia on the north and the Zoolu country on the south.

SOMAULI TERRITORY, OR LAND OF THE SOMAULIES.—This territory lies south-east of Abyssinia, and comprises the district of Adel in the north, and Ajan in the south. The Somaulies are divided into numerous tribes;—some of them are industrious and carry on considerable trade.

At Berbera a great fair is held annually, between the months of October and April, attended by a vast concourse of people from the adjacent countries of Africa and Western Asia.

ZEYLA, a small seaport town of the district of Adel, is governed by a chief, subject to the Pashaw of Egypt.

HURRUR, situated in the eastern part of the Somauli Territory, is a place of considerable trade. The people are Mohammedans, and it is said they admit no Christians within the walls of the town.

ZANGUEBAR.—This country extends from the land of the Somaulies to Mozambique. It is partly subject to the Sultan or Imaum of Muscat, and partly governed by native princes. The trade is chiefly in the hands of the Arabs. The exports consist mainly of rice, sugar, gums, elephants' teeth, and ostrich feathers.

ZANZIBAR, on Zanzibar Island, is the capital and metropolis of the Sultan's possessions in Eastern Africa. MAGADOXA, capital of a state of the same name, is the chief commercial port between Cape Guardafui and Juba.

MELINDA, capital of a state of its own name, carries on a consider

able caravan trade with the interior, and is also engaged in commerce with some of the countries of Southern Asia.

QUILOA, on a small island, near the coast, is the residence of a governor under the Imaum of Muscat.

MOZAMBIQUE.—This country extends along the east coast of Africa, from Cape Delgado, to the Zoolu Country. The chief settlements on this line of coast are Mozambique, Quilimane, and Sofala.

These towns are in possession of the Portuguese. Though the entire country is claimed by this nation, yet there is no actual occupation of the territory except in the towns mentioned and in their vicinity. The exports are slaves, ivory, gold, and coffee. Ivory is the staple article of trade.

The town of Mozambique, the residence of the Portuguese governor, and the capital of the Portuguese possessions in Eastern Africa, is situated on an island of the same name, near the coast.

QUILIMANE, on the Quilimane River, a north branch, or arm of the Zambeze, is the capital of a government of the Portuguese possessions in Mozambique. SOFALA, also, is the capital of a government, and carries on considerable export trade.

SOUTHERN AFRICA.

Chief Divisions.—The chief divisions of Southern Africa are, the Zoolu Country, Natal Colony, Caffraria, Cape Colony, Hottentots' Country, and the Country of the Bechuanas.

ZOOLU COUNTRY.—This territory is situated between Mozambique and the Natal Colony. The Zoolahs belong to the Caffre race.

NATAL, a colony of Great Britain, lies south of the Zoolu Country. The surface is undulating and well watered, the soil fertile, and the climate, though hot, is said to be healthy. Cotton, indigo, and the sugar-cane, grow wild, and fruits are plentiful.

PIETERMARITZBURG, the capital, is situated about fifty miles from Port Natal, the only harbor of the colony. On this harbor, D'Urban, the only port town, is located.

CAFFRARIA lies between Natal and Cape Colony. The Caffres are of a dark brown complexion, and have frizzled hair, which is said to be less woolly than that of the negro. War, hunting, and tending cattle, are the chief employments of the men, while the women build the huts and till the land. A part of Caffraria is now under the control of the British, and KING WILLIAM'S TOWN is the capital.

CAPE COLONY, a dependency of Great Britain, extends from the south coast of Africa to the Orange River. The soil along the coast is fertile; the climate, somewhat changeable, owing to the extreme irregularity of the rains. Wild animals, such as lions, hyenas, rhinoceroses, hippopotamuses, etc., are numerous, particularly in the northern districts. Oxen are used for purposes of draught, and convey the produce from the interior to Cape Town and other ports for shipment.

The inhabitants consist of British settlers, Dutch farmers, or Boors, Hottentots, and Caffres. Cattle rearing forms the most important branch of rural industry. The commerce of the colony is considerable; the chief exports are corn, wine, wool, hides, horns, ivory, and butter.

Cape Town, the capital of the colony, lies on the south side of Table Bay. It is the chief seaport; and vessels frequently stop at the town for the purpose of obtaining water and other refreshments.

THE HOTTENTOTS' COUNTRY.—This country is situated north of Cape Colony, and is inhabited by various tribes, generally known by the name of Hottentots.

Some of them live upon gums, roots, and a kind of bread which they make from the pith of the palm-tree. The better sort live upon the milk and flesh of their cattle, and the produce of the chase.

The Namaquas (a branch of the Hottentot race) dwell in the vicinity of the mouth of the Orange River.

THE COUNTRY OF THE BECHUANAS.—This extensive and populous region lies north of Cape Colony, between the Zoolu Country on the east, and the Hottentots' Country on the west.

The inhabitants are divided into various tribes, and each has its hereditary chief or king, who commonly resides in the largest town that belongs to his particular tribe.

They are said to excel the other tribes of Southern Africa in arts and civilization. They cultivate the soil, live in comfortable, well-constructed houses, and have several large towns in their territory.

LESSON CL.

WESTERN AFRICA.

Remark.—Under this head we shall include all the countries bordering on the coast from the Hottentots' Country to the Great Desert.

COUNTRY OF THE CIMBEBAS AND DAMARAS.—But little is known of this region, which lies north of the Hottentots'

Country, except that it is inhabited by the tribes above named. They reside chiefly in the interior, and possess large herds of cattle. The Damaras construct their habitations by placing poles together and covering them with skins.

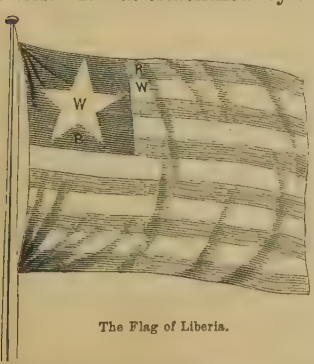
GUINEA.—This country is divided into Upper and Lower Guinea, and subdivided into several states; the chief of these are Benin, Abomey, Coomassie, Biafra, Loango, Congo, Angola, and Benguela. This part of Africa is inhabited by various negro tribes. They enjoy but few of the comforts of civilization, and live in a state of barbarity.

Among the vegetable productions of Guinea, the palm-tree is the most useful. Its nuts, when young, are eaten roasted, and from them, when old, an oil is extracted, which the natives use with their food. From the trunk of the tree is drawn a species of wine, and of the leaves are made ropes, nets, etc.

The negro traders bring ebony, palm-oil, gold dust, slaves, ivory, etc., from the interior to the settlements on the coast, and exchange them for beads, gunpowder, fire-arms, tobacco, etc., brought in vessels from various countries of the civilized world.

The British have some settlements on the coast of Upper Guinea, of which CAPE COAST CASTLE is the capital. The chief exports from this sea-port town consist of palm-oil, gold dust, maize, and tortoise-shell.

LIBERIA, a Negro republic, extends along the coast about 320 miles. It was established by the American Colonization Society in 1821, as a place of refuge for free blacks, and those who might become free in the United States. It became a republic in 1848. Agriculture is extensively pursued, and commerce is largely increasing.



The Flag of Liberia.

SIERRA LEONE, a colonial possession of Great Britain, is situated on the coast of Senegambia, and contains an area of 232 square miles.

SENEGAMBIA is an extensive region of Western Africa, lying south of the Great Desert. It is divided into several states. The climate is intensely hot, and the productions are varied and abundant. The inhabitants are chiefly negroes, the most important tribes being the Jaloofs, the Foulahs, and the Mandingoes.

The Jaloof States are in the neighborhood of the Senegal River and Cape Verde: the Foulah States lie higher up the same river; and the Mandingo States are situated chiefly on the Senegal, to the north and east of the Jaloof States. The French, English, and Portuguese have some small settlements on the rivers.

TIMBO is the capital of Foota Jallou, a state of Senegambia, situated near the source of the Gambia River. BENOWM is the capital of Ludamar, a north-eastern state of Senegambia.

SAHARA, OR THE GREAT DESERT.—This vast desert occupies the central part of Northern Africa.

Both the soil and the climate are unfavorable to vegetation, and consequently afford very sparingly the means of sustaining animal life. This is not the case, however, throughout the country, for there are a few fertile spots called oases. In the south there are some extensive salt mines.

Between the countries south and those north of the Desert, is established a commerce, which is carried on by caravans consisting of from two hundred to five hundred persons and several hundred camels.

The merchants bring from Soudan, gold, ivory, slaves, ostrich feathers, etc., and take, in return, European manufactures. The most westerly caravan route is from Timbuctoo on the south, to Tatta, and thence to Fez in Morocco, on the north. Another route is from Lake Tsad to Mourzouk; and one still further east extends from Wara in Darfur, to Siout in Egypt.

To the west of the route between Timbuctoo and Fez, live the Moors; and to the east of it are the Tooareeks. The Moors of the Desert are represented as being very different from the Moors who inhabit the towns in the Barbary States. As no portion of their territory is fit for cultivation, they depend entirely on the produce of their herds. They do not live in fixed habitations, but in tents, which they remove from one place to another, to find sufficient herbage for their flocks.

The Tibboos occupy a territory lying along the route from Lake Tsad to Mourzouk. Their country is the best part of the desert, as it contains several *oases*. They carry on considerable trade with the caravans which pass through their territory.

CENTRAL AFRICA.

Central Africa comprises all the interior regions of the African Peninsula, from the Great Desert on the north to the Country of the Bechuanas on the south.

SOUDAN.—Soudan is a vast country divided into numerous states or kingdoms, of whose limits we have no accurate account.

The entire region is understood to extend from Sahara on the north to about the sixth parallel of north latitude on the south, and from Kordofan on the east to Senegambia on the west. Its chief states are Houssa, Bournou, Kanem, Bergoo, Darfur, Begharmi, Adamana, Yarriba, and Bambarra.

HOUSSA is a large state lying west of Bournou. It is inhabited chiefly by Fellaths. They are an industrious as well as warlike race; and the country yields in abundance wheat, fruits, vegetables, cotton, and indigo. KANO is the capital town.

BOURNOU occupies an extensive plain, watered by the Yeoo River. The mass of the inhabitants are negroes, and their principal wealth consists in slaves and cattle. KOUKA, on the west bank of Lake Tsad, is the capital town.

KANEM is a large state situated north of Lake Tsad. The inhabitants possess numerous herds of horses and cattle.

BERGOO, or WADAY, is a large but imperfectly known state, lying west of Darfur. The inhabitants carry on some trade with Egypt by means of caravans. WARA is the capital town.

DARFUR.—The boundaries of this state are not known: it lies, however, west of Kordofan. The inhabitants are a mixture of Arabs and Negroes. The chief products are rice, millet, maize, tobacco, tamarinds, dates, etc. COBBE is the capital town.

BEGHARMI, or BAGIRMI, is situated south-east of Lake Tsad. Its capital, according to Hornemann, is MESNA.

ADAMANA.—This state lies south of Bournou. The capital town is YOLA.

YARRIBA is represented as being a large and populous state lying along the western side of the Niger. KATUNGA is the capital town.

BAMBARRA is a fine plain watered by the Niger, and SEGO, its capital, is a large and flourishing town. It has numerous mosques, and carries on considerable trade. It was at this place that Mungo Park first saw the Joliba, or Niger; and at Boussa, on the same river, he was killed in 1805.

TIMBUCTOO, an important trading city of Soudan, on the border of The Great Desert, is celebrated as being extensively engaged in the caravan trade.

KORDOFAN, a country of Central Africa lying east of Darfur, is inhabited chiefly by Negroes, Arabs, and emigrants from Dongola.

This country was subdued by the Pashaw of Egypt, and it therefore forms a part of the Egyptian dominions. OBEID is the capital.

THE GALLA COUNTRY.—This country is situated south-west of Abyssinia. The Gallas are divided into numerous tribes, and are

dispersed in great numbers over the adjoining countries. They are described as being very ferocious and cruel.

A vast extent of unexplored country lies south of Soudan. It is sometimes called Ethiopia.

LESSON CLI.

ISLANDS OFF THE COAST OF AFRICA.

SOCOTRA.—This island lies in the Indian Ocean, about 120 miles east of Cape Guardafui. The inhabitants are chiefly Bedouins. It is governed by the Sultan of Keshin, a small state of Arabia.

SEYCHELLE ISLES.—This group, consisting of about 30 isles, some of which are mere rocks, lies in the Indian Ocean, east of Africa. It is a dependency of the British Colony of Mauritius.

AMIRANTE ISLES.—This group contains about 11 small islets, situated south-west of the Seychelles.

They are destitute of water, but are visited by the inhabitants of Mauritius and the Seychelles during the turtle fishery season.

COMORO ISLES.—This group lies at the north entrance of Mozambique Channel. The islands are mountainous and the inhabitants consist chiefly of Arabs and Negroes. The exports are cocoa-nut oil and tortoise-shell.

MADAGASCAR, containing an area about equal to that of France, is situated east of Continental Africa, from which it is separated by the Channel of Mozambique. The island is divided by a ridge of mountains which extends from north to south.

Soil, etc.—The soil is very fertile, with rich pasturage and magnificent forests; but the climate is hot and unhealthy, particularly on the coasts.

The forests contain a great variety of beautiful and useful trees, among which may be mentioned a sort of wild fig-tree, yielding a milky juice, which thickens into an elastic gum. Of this the natives make flambeaux for various purposes, but particularly for fishing during the night.

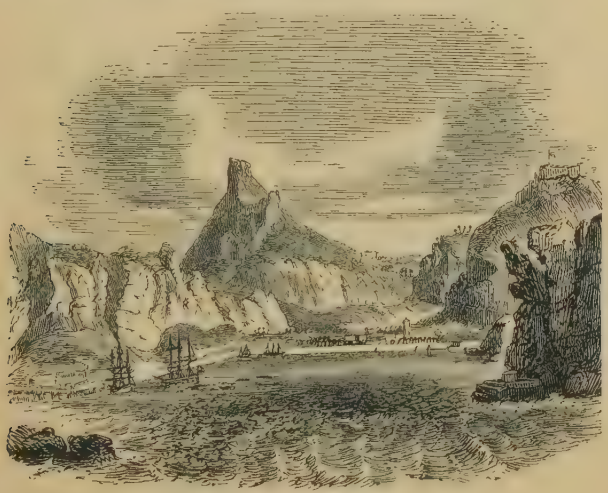
The raven, a species of palm-tree, is peculiar to this island. The wood serves for planks; the ribs of the leaves are used for partition walls; with the leaves, the people thatch their dwellings, or make plates, and other dishes; the top part of the tree, which is a kind of cabbage, serves as an article of food, and its flowers afford a gummy substance, somewhat resembling honey.

Silk-worms are reared, and honey and wax are found in great abundance in the woods. Minerals are abundant.

Inhabitants, etc.—The inhabitants are mostly of Malay, Arabian, and Negro origin. The island is divided into several provinces, each having a chief, who is subject to one common sovereign styled the king. TANANARIVO, the capital, is situated near the centre of the island.

MAURITIUS.—This island, a colony of Great Britain, lies east of Madagascar. The surface is well watered, and the soil in the valleys fertile. The climate is quite warm, but healthy. PORT LOUIS, the capital, is a strongly fortified town.

BOURBON, a French colonial possession, is situated in the Indian Ocean, east of Madagascar. No venomous serpents are found on the island. The chief exports are sugar, coffee, dyewoods, spices, and saltpetre. The inhabitants consist of whites, creoles, and slaves; the latter forming about one half the entire population. ST. DENIS, the capital, lies on the north side of the island.



St. Helena

ST. HELENA.—This small island, containing only about 48 sq. miles, lies in the Atlantic Ocean, about 1200 miles from the west coast of the south part of Africa. The interior is an elevated table-land.

LONGWOOD, the residence of Napoleon Bonaparte, from 1816 till his

death, which occurred May 5th, 1821, is situated on this plateau. This island belongs to the British. JAMESTOWN, the capital, lies in a narrow ravine on the north-west coast.

ASCENSION.—This solitary island lies about 800 miles north-west of St. Helena. It is in possession of the British, and serves as a place of rendezvous for their African squadron. Turtles and birds' eggs form articles of export.

CAPE VERDE ISLES.—This group, consisting of about 14 islands, is situated west of Senegambia. Fruits are abundant, and venomous reptiles are unknown. Amber is found along the coasts, and turtles are numerous. The islands belong to Portugal.

CANARY ISLES.—This group, consisting of seven principal islands and a few small isles, lies about 150 miles west of Sahara. The chief products are grain, wine, oil, sugar, and a great variety of delicious fruits. Numerous singing birds are found on these islands. The inhabitants are of European origin, mostly Spaniards. The islands belong to Spain.

MADEIRA ISLES.—These isles, which belong to Portugal, are situated in the Atlantic Ocean, west of Morocco. The group consists of Madeira, Porto Santo, and a few islets.

In Madeira, the vine is the leading article of culture. Tropical fruits are abundant, and also a great variety of fish. The climate is remarkably uniform throughout the year, and is celebrated for its salubrity. FUNCHAL, the capital, lies on the south side of the island. It is the chief emporium of the wine trade.

AZORES.—This group of about nine islands, lying north-west of the Madeira Isles, belongs to Portugal. The chief exports are wine, brandy, lemons, oranges, salted pork, and beef.

There are few good harbors in the islands, which is a hindrance to their commercial prosperity.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE COUNTRIES OF AFRICA.

(Relating chiefly to the Barbary States, Egypt, Nubia, and Abyssinia.)

LESSON CLII.

1. Where is Africa? How is it bounded? What is its greatest length? What its breadth? What physical peculiarity has Africa, with regard to its

surface? How many miles of coast line has Africa? To what race do the inhabitants of Northern Africa chiefly belong? By whom is the remainder mostly inhabited? What is the state of civilization in Africa? What do we know of the history of this country?

2. What political division is Morocco? Where is it situated? Describe the surface. What becomes of the water supplies during the hot season? For what is the soil celebrated? What people inhabit Morocco? Who conduct the mercantile transactions? In what are the Berbers principally engaged? By whom are the merchant caravans always attended? How is the city of Morocco situated? Mention the chief seaport of the empire.

3. What city is sometimes the residence of the emperor? For what is Fez noted? Has Algiers good seaports? Where are the fertile portions of the colony? What valuable fisheries on the coast? What is the character of the natives? To what government does Algiers belong? What is done with the ore taken from the mines? What are the leading exports of the Colony?

4. What officer resides in the city of Algiers? With what places does this city have regular steam communication? Where is Tunis? Describe its soil and climate. What forms the principal food of the inhabitants? Describe the traveling facilities. What animals are used as beasts of burden? Why is Tunis called a *beylik*? For what is Kairwan noted?

5. What does Tripoli include? Where is it situated? Describe the surface in the eastern part. In the western. In the southern. During what part of the year do droughts prevail? By whom are the towns principally inhabited? What are the chief manufactures? What is Tripoli styled? Why is it called a pashawlic? By whom is the province of Barca inhabited?

6. By whom is Fezzan governed? To whom does this sultan pay tribute? What is the chief product of Fezzan? What the principal food of the inhabitants? For what is Mourzouk noted? What political division is Egypt? Where is it situated? What is the great feature of its surface? What is the effect of the annual inundations of the Nile?

7. Are snow and rain frequent in Egypt? What kind of grain is extensively cultivated? What are its uses? Who hold the principal offices under government? What specimens of ancient art are seen in Egypt? Where is Ghizeh? Where are the three principal Egyptian pyramids? What is the largest one called? What is its height? What improvements in traveling facilities have lately been made in Egypt? By whom? How is the journey made from Europe to India by "the overland route?"

8. Are manufactures extensive in Egypt? What facilities for manufacturing are wanting here? What are the leading exports? Which of these is the most important? What city is the capital of Egypt? How far is Cairo from the Mediterranean? Where is Alexandria situated?

9. Where is Cossier? For what is it noted? Where is Nubia? Under whose dominion is it? Describe the surface of Nubia. What are its principal productions? What trees are numerous here? To what races do the Nubians belong? What form their chief food? What trade is carried on? Mention the traveling facilities.

10. What city is the capital of Nubia? For what is it a place of rendezvous? What town in Nubia has a good harbor on the Red Sea? For whom is it an important station? Where is Abyssinia? What does it comprise? For what is the soil remarkable? What does it produce? What is the favorite article of food? Mention the animals of Abyssinia. What do the inhabitants comprise?

11. What is the religious condition of Abyssinia? What the state of civilization? What is the religion of the Gallas? What are the manufactures of Abyssinia? How has the commerce of the country been reduced? What does Amhara comprise? Where is Gondar?

LESSON CLIII.

REVIEW QUESTIONS.—(CONTINUED.)

(Relating chiefly to Eastern, Southern, Western, and Central Africa.)

1. What countries are included under the head of Eastern Africa? What does Somauli Territory comprise? How are the Somaulies divided? What is held at Berbera? What is Zeyla? Where is Hurrur? What is the religion of the people? How do they feel toward Christians? Where is Zanguebar? To whom is it subject? Where is Magadoxa? Who resides at Quiloa?

2. Where is Mozambique? Mention the chief settlements on this line of coast. In whose possession are these towns? Of what is Quilimane the capital? What is Sofala? Where is Natal? What grow wild here? Mention the only seaport town of Natal Colony. Where does Caffraria lie? How far does Cape Colony extend? What animals abound here? What is the principal branch of industry?

3. What city is the capital of the colony? For what do vessels stop here? Where is the Hottentots' Country? By whom is it inhabited? Upon what do the natives subsist? Where is the Country of the Bechuanas? How are the inhabitants divided? How are they governed? How do they compare with the other tribes of Southern Africa? In what manner do they live? Mention their principal towns.

4. What countries are included under the head of Western Africa? What is known of the Country of the Cimbebas and Damaras? How do the Damaras build their habitations? How is Guinea divided? How is each Guinea subdivided? By whom is this part of Africa inhabited? Mention the most important vegetable of Guinea.

5. What do the traders bring to the settlements on the coast? What is Liberia? Where situated? By whom, and for what purpose, was it established? When did it become a republic? Where is Sierra Leone? What is Senegambia? Mention its productions. Where are the Jaloof States? Where the Foulah? Where the Mandingo? Who have settlements on the rivers?

6. Where is the Great Desert? Describe its soil and climate. How is commerce carried on? What is the course of the most westerly caravan route? Where do the Moors live? How do the Tooareeks live? What is the best part of the desert? What does Central Africa comprise? How is Soudan divided?

7. Mention its most important states. By whom is Houssa chiefly inhabited? Where is Bournou? What are the mass of the inhabitants? What is their principal wealth? Where is Kanem? What do the inhabitants possess? Where is Bergoo? What trade do the inhabitants carry on? Where does Darfur lie? What are its chief products?

8. What town is the capital of Begharmi? Where is Adamana? What is Bambarra? What does it contain? What did Mungo Park first see at this place? By whom was Darfur subdued? Of what does it form a part? Where is the Galla Country? How are the Gallas divided? What is their character? What lies south of Soudan? What is it sometimes called? Where is the Island of Socotra?

9. By whom is it governed? About how many isles are in the Seychelle group? Where do they lie? Where are the Amirante Isles? Of what are they destitute? For what are they visited? Where does the Comoro Group lie? What is the character of the surface? Where is the Island of Madagascar?

10. What do the forests on this island contain? For what purpose is the milky juice of the wild-fig tree used? What tree is peculiar to this island? To what uses are its different parts put? What is the Island of Mauritius? Of what country is Bourbon a colony? Where is Bourbon?

11. Where is St. Helena? What is its extent? Describe the interior of the island. How long did Napoleon Bonaparte reside at Longwood? To whom does this island belong? Where is the Island of Ascension? In whose possession is it? What purpose does it serve? Where are the Cape Verde Isles? Of what does this group consist? What are abundant here? Where are the Canary Isles? Mention the chief products. Of what origin are the inhabitants?

12. Of what do the Madeira Isles consist? What is the leading article of culture on the Island of Madeira? Of what is Funchal the chief emporium? Where do the Azores lie? To whom do they belong? What is a hindrance to their commercial prosperity?

OCEANIA, OR OCEANICA.

LESSON CLIV.

MAP STUDIES.—SYSTEMATICALLY ARRANGED.

Describe the following Islands and Island Groups, viz.:—BONIN, SANDWICH, MARQUESAS, LOW ARCHIPELAGO,—Osnaburgh,—GAMBIER,—Pitcairn,—SOCIETY, COOKS, FRIENDLY, FEEJEE, NAVIGATORS, UNION, CENTRAL ARCHIPELAGO, CAROLINE, and LADRONE.

State in what Group and in what part of it is each of the following Islands, viz.:—BAILY,—Nihau, Kauhai, Oahu, Molokai, Maui, Hawaii, Lanai,—Hiaou, Nukahiva, Ohivaoa,—PALLISER, or PAUMOTU, KING GEORGE'S, Resolution, Bow,—Tahiti,—Tongatabu:—

Vanua Levu, Viti Levu,—Savaii, Upolu, Tutuila,—MARSHALL, GILBERT, KINGSMILL, TASWELL, DE PEYSTERS, ELLICE'S,—PELEW, YAP, EGOI, GULIAY, ELATO, ENDERBY, LUTKE, HOGOLEN, MORTLOCK, PUINIPET, SINIAVIN, Oualan,—Urae, Assumption, Grigan, Pagou, Amalgan, Saypan, Tinian, Rota, and Guahan.

PART II.

Mention the boundaries of the following Countries, viz.:—AUSTRALIA,—North Australia, New South Wales, Victoria, South Australia, and West Australia.

State in what part of Australia is each of the following Lands, viz.:—De Witt, Tasman, Arnhem, and Nuyts.

State the situation of the following Cities and Towns, viz.:—Victoria,—Brisbane, Bathurst, Paramatta, SYDNEY,—MELBOURNE, Geelong,—ADELAIDE,—Albany, and PERTH.

Describe the following Islands and Island Groups, viz.:—New Guinea, ADMIRALTY,—New Ireland, NEW BRITAIN,—SOLOMON, LOUISIADE, SANTA CRUZ, or QUEEN CHARLOTTE'S,—Vanikoro,—BANKS, NEW HEBRIDES, LOYALTY,—New Caledonia, Norfolk,—NEW ZEALAND, CHATHAM, Van Diemen's Land, and Kangaroo.

State in what Group and in what part of it is each of the following Islands, viz.:—Bougainville, Choiseul, Isabel, Malayta, Guadalcanar, St. Christoval,—Espiritu Santo, Sandwich, Erromango,—New Ulster, New Munster, and New Leinster.

PART III.

Describe the following Island Towns, viz :—AUCKLAND, Wellington, Nelson, Dunedin,—Launceston, and Hobart Town.

Describe the following Mountains, viz. :—Australian Alps, Mount Alexander,—and Mount Egmont.

Describe the following Seas, viz. :—Timor and Coral.

Describe the following Gulfs and Bays, viz. :—Carpentaria, Halifax, Botany, Spencer's, Australia, Geographe, and Shark.

Describe the following Straits, viz. :—Torres, Bass,—Dampier, Cook's, and Foveaux.

Describe the following Rivers, viz. :—Murray, Murrumbidgee, Darling, and Swan.

LESSON CLV.

MAP STUDIES.—(*Continued.*)

Describe the following Islands and Island Groups, viz. :—PHILIPPINE, SPICE, or MOLUCCAS,—TIMOR,—Flores, Sandalwood, Sumbawa, Java, Sumatra, Banca, Borneo, and Celebes.

State in what Group and in what part of it is each of the following Islands, viz. :—* Luzon, Samar, Leyte, Mindanao, Palawan, Mindoro, Penay, Negros,—Gilolo, Bouro, Ceram, BANDA, Amboyna, and Bouro.

State the situation of the following Island Towns, viz. :—MANILLA, BATAVIA, Samarang, Surabaya, Sourakarta, Djokjokarta,—Acheen. Siak, Palembang, Bencoolen, Padang,—Borneo, Banjarmassin, Pontianak, Sarawak,—Menado, and Macassar.

Describe the following Seas, viz. :—Sooloo, Celebes, and Java.

Describe the following Gulfs, viz. :—Tomini, Tolo, and Bony.

Describe the following Straits, viz. :—Molucca, † Bali, Sunda, and Macassar.

OCEANIA.

LESSON CLVI.

Area in sq. miles, 4,500,000. Population, 21,000,000.

Geographical Position.—Oceania, or Oceanica, one of the Grand Divisions of land on the globe, comprises within its limits the Australian

* See Map of Asia, where the islands belonging to the Philippine Group are drawn on a larger scale.

† Bali Strait separates Bali Island from Java.

Continent, and the greater part of the islands and island groups of the Pacific Ocean.

How Divided.—It is divided into three principal parts, viz.:—Eastern Oceania, or Polynesia, Central Oceania, or Australasia, and Western Oceania, or Malaysia.

POLYNESIA.

Under this head is included a vast number of islands irregularly scattered over the immense expanse of the Pacific, between Malaysia and Australasia on the west, and the American Continent on the east.

Groups.—The principal groups of Polynesia are the Bonin, Sandwich, Marquesas, Low Archipelago, Society, Cooks, Friendly, Navigators, Feejee, Central Archipelago, Caroline, and the Ladrone. Those which lie south of the equator are sometimes called the South Sea Islands.

Soil, Climate, and Productions.—In the mountainous islands of Polynesia the soil is exceedingly fertile. The climate, though warm, is tempered by the influence of the surrounding ocean. Vegetation is rich and abundant.

Various species of palm, cocoa-nut trees, and tree-ferns, cover the narrow spaces of land on most of the isles, down to the very edge of the ocean. The bread-fruit is an important article of native diet throughout Polynesia. Tropical fruits and flowers of brilliant hues are scattered in great profusion over the surface of this distant island-world.

The chief minerals are gold, diamonds, copper, lead, coals, tin, and rock salt. The principal animals are ourang-outangs, monkeys, kangaroos, black swans, birds-of-paradise, Malay tapirs, etc., together with a great variety of domestic animals.

Inhabitants, etc.—Polynesia is inhabited mainly by tribes of a light-brown color, closely allied to the Malay race. These tribes are for the most part in a savage condition, except where Christianity and civilization have been introduced among them.

The natives of the Sandwich Isles have embraced Christianity. There are, at the present day, about 60 missionary stations established among the South Sea Islands. These support about 400 schools, embracing nearly 20,000 pupils.

BONIN ISLES.—These consist of three small groups lying in the North Pacific Ocean about 500 miles from Jedo. The climate is excellent and the soil productive. The middle group contains one good harbor which (owing to geographical position) may become the port

of an important commercial city. These islands are claimed by the British.

The Flag of the Sandwich Isles.

THE SANDWICH ISLES.—These islands, the most important group of Polynesia, lie in the North Pacific Ocean, about 1,800 miles west of California. There are 13 islands in the group, only eight of which are inhabited.

Surface, etc.—In Hawaii, the largest island of Polynesia, containing an area of 4,040 square miles, there are several active volcanoes. The climate is mild and salubrious. Wheat is raised in the uplands; and in the valleys, coffee, sugar, cotton, tobacco, arrow-root, cocoa, bread-fruit, yams, etc., are produced.

Inhabitants, etc.—The natives belong to the light-colored Oceanic stock. Owing to the advantageous position of these islands (being a kind of common centre for the principal whaling-grounds of the North Pacific), their harbors are often visited by British and American vessels. The chief exports are sugar, coffee, whalebone, and whale-oil.

Honolulu, the commercial emporium and capital of the group, is situated on the Island of Oahu.

THE MARQUESAS ISLANDS.—This group lies in the Pacific Ocean, about 2000 miles west of Peru, between the parallels of 8° and 10° south latitude. Nukahiva, the largest island, is 70 miles in circumference.

Surface, etc.—The surface is mountainous, and the level districts yield a great variety of tropical produce.

Inhabitants, etc.—The inhabitants are superior in physical endowments to those of many other of the islands of Polynesia; but they are less civilized. They are now under the sovereignty of France.

LOW ARCHIPELAGO.—This archipelago, consisting of numerous groups comprising about 90 islands, lies between the Marquesas and the Society Islands. Very few of them are inhabited, and the navigation of the adjacent waters is exceedingly dangerous.

GAMBIER ISLANDS.—This coral group lies in the South Pacific Ocean, south-east of the Low Archipelago. It consists of five larger islands and several small islets. They are important as being the only

known station (except Pitcairn Island) between Chili and the Island of Tahiti, where good water can be obtained. The largest island is about six miles in length, and is inhabited.

PITCAIRN ISLAND.—This small, solitary island of the South Pacific Ocean, lies about 300 miles south-east of the Gambier Islands, and about half-way between Panama and Australia. It is seven miles in circumference.

This island is interesting chiefly from its connection with the history of a remarkable colony founded here in 1790, by the mutineers of the English ship Bounty.

Matavai Bay, Island of Tahiti.

SOCIETY ISLES.—This group lies in the South Pacific Ocean south-west of the Low Archipelago. It consists of the Island of Tahiti which is about 32 miles in length, and a great number of smaller islands.

Surface, etc.—All the islands are lofty and more or less mountainous, and the soil is fertile. They are more frequently visited than any other islands in the South Pacific, and some commerce, consisting chiefly in the export of pearl-shells, sugar, cocoa-nut oil, and arrow-root, is carried on by the various foreigners settled here.

Inhabitants, etc.—The inhabitants resemble the Sandwich Islanders. Their chief occupations are agriculture, fishing, and canoe-building; the first is very rudely conducted.

Papieti, a village on the north-west coast of Tahiti, is the capital of the islands. The entire group is under the protection of France.

LESSON CLVII.

POLYNESIA.—(*Continued.*)

COOKS, or HERVEY ISLES.—This group consists of a few small islands lying south-west of the Society Isles. The inhabitants are Malays.

FRIENDLY, or TONGA ISLES.—This group lies in the South Pacific Ocean, west of Cooks Isles. Tongatabu, the largest and most southerly island of the group, and the residence of its sovereign, is about 50 miles in circumference.

Surface, etc.—The surface is for the most part low, and the soil exceedingly fertile. The natives are described as being industrious, ingenious, and fond of amusements. They cultivate yams, sweet potatoes, bananas, cocoa-nuts, bread-fruit, sugar-cane, shaddocks, limes, etc. The pandanus is one of their most useful trees; as of it all their mats are made. Most of these islands are of coral formation.

FEEJEE ISLES.—These islands are the most westerly of the Polynesian Groups of the South Pacific Ocean. The entire group comprises 150 islands, 65 of which are inhabited. Viti Levu, the largest island, is about 80 miles in length by 50 in breadth.

Surface, etc.—Some of the islands are mountainous, and all of them are supposed to be of volcanic origin. The soil is fertile, and fruits of various kinds, including the bread-fruit, of which there are here nine different sorts, are abundant. The chief article of food is the yam.

Inhabitants, etc.—The Feejeeans are a barbarous race. Human sacrifices and cannibalism are common among them. It is said that war is their constant occupation. The group is divided into several districts and governed by as many chiefs.

NAVIGATORS ISLES.—This group, comprising eight islands, lies in the South Pacific Ocean north-east of the Feejee Isles. The most important islands are Upolu, Tutuila, and Savaii; the last contains an area of 700 square miles.

Surface, etc.—The surface is for the most part mountainous. The

soil is rich; the climate is more moist than that of the Society Isles, and the vegetation more luxurious. The bread-fruit is the most abundant of all the trees, and grows here to a very large size.

Inhabitants, etc.—The inhabitants are represented as being intelligent, good-natured, and hospitable.

THE CENTRAL ARCHIPELAGO.—Under this head are included several groups of islands, extending from about the 10th parallel of north, to the same degree of south, latitude.

THE MARSHALL ISLANDS comprise two parallel chains of islands, called respectively Radack and Ralick.

THE GILBERT ISLANDS include the Kingsmill Group, which contains about 15 islands. The inhabitants are frequently at war with each other. The population of the group is estimated at about 60,000.

THE CAROLINE ISLANDS.—These islands are divided into numerous groups, extending from east to west, over a space of about 2000 miles. Many of them are of coral formation. The most westerly group is Pelew, and the most easterly island is Oualan. The latter is about 10 miles in length, and contains abundant supplies of water, fruit, and fish.

The Pelew Group consists of seven islands and several islets, all of coral formation. The chief island of the Yap Group is mountainous and abounds in precious metals. The Egoi Group consists of numerous low coralline islands, only a part of which are inhabited.

The climate of the Carolines is mild, and the inhabitants are represented as being skillful navigators, living chiefly on the produce of their fishing.

These islands belong nominally to Spain, and form part of the government of the Philippine Islands.

THE LADRONE, or MARIANNE ISLANDS.—This group, consisting of about 20 islands, of which only five are inhabited, lies in the North Pacific Ocean, north of the Caroline Group. Guahan, the largest island, is about 80 miles in circumference.

Surface, etc.—The general aspect of these islands is beautiful and picturesque; their mountains are covered with perpetual verdure, and their soil is exceedingly fertile.

The climate is in general serene and temperate, except in July and August, when the weather is very hot. The chief productions are cotton, indigo, rice, sugar, and the plantain. Insects are numerous.

Inhabitants, etc.—The present inhabitants are for the most part descendants of emigrants from the Philippine Islands. The Ladrones

are regarded as a Spanish possession, and included in the government of the Philippines. The Spanish governor resides in the Island of Guahan.

LESSON CLVIII.

AUSTRALASIA.

This division of Oceania includes the Australian Continent and numerous islands situated in the adjacent waters.

AUSTRALIA.

Area in sq. miles, 3,000,000. Population, 500,000.

Geographical Position.—Australia lies south of the equator, between the South Pacific Ocean on the east and the Indian Ocean on the west. Its greatest length from east to west is about 2400 miles, and its greatest breadth 1900. Its coast line is estimated at nearly 8000 miles.

How Divided.—Australia is divided into five colonies, belonging to Great Britain, viz:—North Australia, New South Wales, Victoria, South Australia, and West Australia. North Australia, owing to its hot and unhealthy climate, has been abandoned.

Surface.—The greater part of the interior is yet unexplored; but those portions which have been visited are said to be dry and barren plains. The most elevated mountain range of this country extends along its east coast.

Soil, etc.—In the eastern, south-eastern, and south-western portions of the continent, there are large tracts of fertile land. The climate is, in general, dry and healthy: the northern parts, which are within the torrid zone, are of course hot. A scarcity of fresh water, whether in the form of rivers or lakes, forms a marked characteristic of the Australian Continent.

Both the vegetable and animal productions of Australia present the most striking contrast to those of other parts of the world. The native trees are all evergreens; and the forests consist chiefly of acacias, gum-trees, and gigantic ferns. Australia possesses no native fruits capable of being used as food, except a few berries. Many of the food plants of Europe have been introduced, and are now cultivated with success in the different settlements.

There are in this country no elephants, rhinoceroses, lions, tigers, or any beasts of prey except the *dingo*, or native dog, which often commits serious ravages upon the property of the settlers. Reptiles

and insects are numerous. The most remarkable quadruped (found only in this country) is the *ornithorhynchus.** Among the vegetable anomalies are cherries with their stones on the outside, and trees which shed their bark instead of their leaves.

Inhabitants, etc.—The aborigines belong to the negro family of nations. The white population, consisting chiefly of British settlers and their descendants, is rapidly increasing, owing to the recent discovery of gold mines in the south-eastern part of the continent.

The leading industrial pursuits of the settlers are mining and the production of wool.

Exports.—The chief exports are gold, wool, tallow, and hides.

Sydney, Australia.

SIDNEY, the capital of the British colony of New South Wales, situated on the inlet of Port Jackson, is rapidly advancing in population and commercial importance.

MELBOURNE, the capital of the British colony of Victoria, lies near the mouth of the Yarra River. Steamers ply between this place and Hobart Town, Sydney, and other ports of the adjacent colonies;

* The or'ni-tho-rhynch'us has the beak of a duck and the body of an otter. It is 18 inches in length, and is covered with a brown fur. Its paws are webbed and formed for swimming, and the hinder ones are armed with a spur through which exudes a poisonous liquid.

a regular steam communication has also been established with Great Britain.

A railway has been chartered to connect Melbourne with the gold fields of Mount Alexander, and a short one is completed, which extends from the town to the beach.

PAPUA, or NEW GUINEA.—This large island, containing an area of 275,000 square miles, is situated north of the Australian Continent. All that is known respecting it, has been gathered from the reports of persons who have traded with the natives on the coasts.

Surface, etc.—The interior is supposed to be mountainous. Many of the finest productions of Australasia, comprising fine woods, medicinal barks, pearls, birds-of-paradise, etc., are brought from this island by traders.

Inhabitants.—The inhabitants are partly Malays and partly Papuan negroes.

ADMIRALTY ISLES.—This group, consisting of about 30 verdant and beautiful islands, lies in the South Pacific Ocean, north of New Guinea. The largest of the group is called Great Admiralty Island, and is about 60 miles in length. The natives are a good-looking race of savages.

NEW IRELAND.—This long narrow island, situated in the South Pacific Ocean, south-east of the Admiralty Isles, is about 240 miles in length. The wild nutmeg grows here in great abundance, and the cocoa-palm in the highest perfection. The natives are nearly as black as the Negroes of Africa.

NEW BRITAIN.—New Britain, situated in the South Pacific Ocean, between New Ireland and New Guinea, consists chiefly of two mountainous, well wooded, and populous islands. The larger island is supposed to have an area of 24,000 square miles.

SOLOMON ISLES.—This group, lying in the South Pacific Ocean, east of New Guinea, extends in a N. W. and S. E. direction over about 550 miles. The islands have not as yet been carefully surveyed. They are represented as being elevated, fertile, and well-wooded. The inhabitants are partly Malays and partly Papuan negroes.

LOUISIADE ISLES.—This group, comprising numerous islands, (80 of which are known, and many others it is believed remain yet to be discovered) is situated in the South Pacific Ocean, east of New Guinea. Some of these islands are fertile, and are inhabited by a warlike race, of a black or very dark copper color, with woolly hair.

NEW HEBRIDES.—This group consists of about 20 islands, ly-

ing in the South Pacific Ocean, south-east of the Solomon Isles. Espiritu Santo, the largest island, is about 65 miles in length and 20 in breadth.

This group is, for the most part, of volcanic origin. The chief productions are figs, nutmegs, oranges, cocoa-nuts, bananas, bread-fruit, and the sugar-cane. It is sometimes visited for cargoes of wood. The inhabitants are of the Papuan race.

NORFOLK.—This small island, 14 square miles in extent, is about 1,000 miles east of Australia. It belongs to the British, and is the seat of a convict establishment to which the worst class of criminals are banished.

NEW ZEALAND, a colony of Great Britain, comprises three islands, viz.: New Ulster, New Munster, and New Leinster, together with several small adjacent isles. Their entire area is about 100,000 square miles.

Surface.—The interior of the islands is mostly hilly, and, in parts, mountainous. Egmont, a detached volcanic mountain in New Ulster, attains an elevation of 8,800 feet. The islands are well-watered by numerous rivers.

Soil, etc.—The soil is fertile; the climate, mild and damp; and though the vegetation is particularly luxuriant, yet but a small part of it consists of plants capable of being used as food.

European fruits and vegetables are, however, successfully cultivated. There are few birds, and no wild animals or noxious reptiles in New Zealand. The chief minerals are copper, sulphur, and iron.

Inhabitants, etc.—The aborigines belong to the Malay race. Those dwelling in the neighborhood of the European settlers have generally adopted their habits and pursuits, but the vast majority still preserve the customs of a barbarous life. The number of British settlers amounts probably to 25,000, and the total population to about 105,000.

The chief exports are wool, flax, timber, and the produce of the whale fishery.

Auckland, the capital of the colony, is situated in the northern part of New Ulster Island.

VAN DIEMEN'S LAND.—This island, a colony of Great Britain, containing an area of 27,000 square miles, is situated south of Australia.

Surface, etc.—The surface is generally mountainous, and the soil not very fertile. The climate is colder and more humid than that of Australia.

Timber is abundant, and pasturage plentiful. Sheep form the most important source of wealth. The leading exports are wool, whalebone, and whale oil.

Hobart Town, the capital of the colony, lies on the south coast. Ship-building is here carried on to a considerable extent.

LESSON CLIX.

MALAYSIA, OR THE ASIATIC ARCHIPELAGO.

This division of Oceania consists of a range of large islands lying directly south-east of Asia. They are sometimes styled the East Indies.

Soil, Climate, and Productions.—The soil is fertile in a high degree, and the climate is very warm. The larger islands of Malaysia produce sugar, coffee, tobacco, indigo, cotton, and various kinds of valuable timber, while the smaller ones yield immense quantities of spices and aromatics. Rice is everywhere extensively cultivated; and sago is raised in the eastern islands of the archipelago. Pepper and camphor are abundant in Sumatra.

Inhabitants, etc.—The natives of Malaysia are chiefly of the Malay race. The Dutch have settlements in various parts, and are masters of nearly the whole archipelago, with the exception of the Philippine Isles, which belong to Spain.

THE PHILIPPINE ISLES.—This large group, consisting of about 1,000 islands, and containing an area of 120,000 square miles, lies in the northern part of the Asiatic Archipelago.

Luzon, the largest island, has an estimated area of 57,500 square miles. The greater part of this group belongs to Spain, whose dominion is stated to extend over 50,000 square miles.

Surface, etc.—The surface of the larger islands is very rugged and mountainous. The climate is moist, but not so warm as the latitude would indicate. Earthquakes and hurricanes are frequent. Timber is abundant, fruits are plentiful and of great variety, and rice is raised in quantities, more than sufficient for home consumption.

Inhabitants, etc.—More than half the population consists of Malays; the remainder are principally Papuan negroes, Chinese, European and other settlers.

Manufactures and Exports.—Coarse earthenware, hats made from the fibres of cane, mats, cigar-cases, and rope, form the chief articles of native industry. The trade is mainly in the hands of American and British merchants, and consists chiefly in the extensive exporta-

tion of rice to China, and of sugar, hemp, cigars, rope, and sapan wood to Europe, Australia, and the United States.

Manilla, Island of Luzon.

MANILLA, the capital of Luzon, and of the entire Philippine Group, is situated on Manilla Bay. It is the seat of an extensive trade, and is noted for its cigar manufactories.

THE MOLUCCAS, OR SPICE ISLANDS.—This group of the Asiatic Archipelago includes Gilolo, Ceram, Amboyna, Bouro, and several other islands,—together with the group of the Banda Isles. Their entire area is estimated at 38,000 square miles.

These islands are subject to the Dutch, whose chief seat of power is at Amboyna. They are celebrated for their spices, particularly nutmegs and cloves. Sago is the principal article of food.

TIMOR.—This island, which is about 300 miles in length and 40 in breadth, is situated in the Indian Ocean, south of the Spice Islands.

The Dutch and Portuguese claim between them the entire sovereignty of this island. The chief exports are sandal-wood sent to China, bees'-wax to Java, and cattle, horses, sago, and maize to Australia, Mauritius, and Singapore, in return for various manufactured articles.

The Aborigines are black, but their hair is not woolly. They in-

habit the mountainous parts, while the Malays are mostly in possession of the sea-coasts.

FLORES.—This island, the largest of the chain that extends from Java to Timor, is about 200 miles in length and 35 in breadth. It contains several lofty volcanic peaks. It is occasionally resorted to by homeward-bound ships for refreshment and provisions.

SANDALWOOD.—This island of the Asiatic Archipelago lies south of Flores. It is about 120 miles in length, and its average breadth is 30 miles. It is fertile and very populous. The Dutch have some settlements on the coast.

SUMBAWA.—This island is situated between the Java Sea and the Indian Ocean. It is about 160 miles in length. It is divided into six native states, governed by their respective chiefs, who are either allies of the Dutch, or under their protection.

It is noted for its fine breed of horses; large numbers of which are annually exported.

JAVA.—This large island, containing an area of 50,000 square miles, lies south-east of Sumatra, between the Sea of Java and the Indian Ocean. It belongs to, and is the chief seat of, the Dutch power in the East.

Surface.—The southern part of the island is considerably elevated Volcanoes are numerous.

Soil, etc.—The soil is rich, and is noted for the variety and abundance of its vegetable productions. Rice is the chief grain cultivated. Cotton, sugar, and coffee, are raised in large quantities; and these form the leading exports. The climate is hot.

The great bulk of the foreign trade is carried on through the ports of Batavia, Samarang, and Surabaya.

Inhabitants, etc.—The Javanese belong to the Malay race, and are generally considered superior in civilization to the natives of the other islands of the Asiatic Archipelago.

Batavia, situated on the north coast of the island of Java, is the seat of government of the Dutch settlements in the East Indies. This city is the great commercial emporium in which all the merchandise of the Dutch company in India is deposited; so that here you may find the various spices from the Molucca, or Spice Islands; gold-dust and diamonds from Borneo; coffee and pepper from Celebes and Sumatra; bees'-wax and dye-woods from Timor; tin from Banca, etc.

Djokjokarta and Sourakarta are capitals of native states, in the interior. These are under the protection of the Dutch.

SUMATRA.—This large island lies in the Indian Ocean immediately under the equator. It contains an area of about 130,000 square miles.

Surface.—The western side of the island is mountainous; and the eastern spreads out into plains, nearly as level as the sea.

Soil, etc.—The soil is fertile, and the climate hot and moist. The staple production is pepper, which, together with camphor, benzoin, cinnamon, ebony, rattans, sandalwood, aloes, and sago, forms the leading export.

Inhabitants, etc.—Sumatra is inhabited by a mixed population, chiefly Malays.

ACHEEN, situated near the north-western extremity of the island, is the capital of an independent state of the same name.

PALEMBANG, in the eastern part, is the capital of a province of its own name. It has a good port, and carries on an active trade with Java and Malacca. BENCOOLEN and PADANG are Dutch settlements situated on the western coast.

In the vicinity of the eastern coast of Sumatra, is the Island of BANCA, which is noted for its extensive tin mines.

REMARK.—Sumatra, Java, Sumbawa, Flores, and some smaller islands in the vicinity, are called "the Sunda Isles."

BORNEO.—This immense island is situated in the centre of the great Asiatic Archipelago. It contains an area of about 286,000 square miles, which is more than the entire area of our Eastern and Middle States.

Surface.—The shores are generally low, and the interior is supposed to be mountainous, and well watered by numerous rivers.

Soil, etc.—The soil is said to be as fertile as any in the world, and the climate is more mild and healthy than that of the neighboring islands.

Among the many vegetable productions may be mentioned maize, rice, yams, sago, coffee, cotton, pepper and other spices, cocoa-nuts, tobacco, and gutta-percha. The sugar-cane flourishes without culture.

The mineral products are of the richest kind, comprising gold, diamonds, platina, tin, antimony, copper, and iron.

Inhabitants, etc.—The inhabitants consist of Aborigines (sometimes called Dyaks), Malays, Chinese, and Boogis from Celebes.

The whole of the western and southern coasts of Borneo, and also a portion of the eastern coast, are subject to the Dutch, whose principal towns are Banjarmassin and Pontianak. The northern and north-

western coasts, comprising the territory of Borneo Proper, with the town of that name, are now subject to Great Britain.

Exports.—The leading exports are camphor, gold, diamonds, edible-birds'-nests, and trepang*; the last two articles are generally sent to Chinese ports.

Borneo, the chief city of Borneo Proper, is situated on the Brunai River, the scenery of which is described as being very beautiful. The city is built on piles.

CELEBES.—This irregularly shaped island lies east of Borneo, and contains an area of about 70,000 square miles.

Surface, etc.—Dense woods, comprising a great variety of trees, clothe the mountain sides; among these is the *badeau* tree, from which the well known Macassar oil is extracted.

Inhabitants, etc.—Celebes is divided chiefly among independent nations, of whom the Boogis are the principal; but the Dutch possess the settlement of Macassar, on the south-western coast, and exercise a limited authority over some of the smaller states.

Exports.—The leading exports are edible-birds'-nests, hides, cotton, tortoise-shell, and some spices.

REVIEW LESSONS.

MISCELLANEOUS QUESTIONS ON THE ISLANDS OF OCEANIA.

LESSON CLX.

1. What does Oceania comprise? How is it divided? What is included under the head of Polynesia? Describe the climate. What is an important article of diet throughout Polynesia? By whom are these islands chiefly inhabited? Where are the Bonin Isles? The Sandwich Isles? How many islands are there in this group? Mention the largest island of Polynesia. What are the productions of this island?

2. Where is Honolulu? Where are the Marquesas Isles? Describe the surface of these islands. How do the inhabitants compare with those in the other islands of the Pacific? Where is the Low Archipelago? Of what does it consist? Where are the Society Islands? Mention the largest of this group. In

* Trepang is a shapeless gelatinous substance (seemingly devoid of life) of a brownish color. It is found adhering to the rocks on the coasts of Borneo and Celebes, and is esteemed a great luxury by the Chinese, who eat it, prepared in a variety of ways.

what does the commerce of these islands consist? Under whose protection are they?

3. Where are Cooks, or Hervey Isles? Where are the Friendly, or Tonga Isles? What island is the largest of this group? Where are the Feejee Isles? Of what origin are most of these islands? What are common among the Feejeeans? Where are the Navigators Isles? What tree is here abundant? Of what description are the inhabitants? What is the size of the largest island?

4. What islands are included in the Central Archipelago? What do the Marshall Islands comprise? How many islands in the Kingsmill Group? Over what space do the Caroline Islands extend? Describe the climate of these islands. To whom do they belong? Of how many islands does the Ladrone group consist? How many of these are inhabited?

5. In what government are they included? What does Australasia include? What is the extent of the Australian Continent? Describe the soil of the explored portions. Describe the animal and vegetable productions. What is the most formidable beast of prey? Of what origin are the Aborigines? Of whom does the white population consist? To what is the rapid increase of population owing?

6. What form the leading pursuit of the settlers? What city is the capital of New South Wales? What is New South Wales? What colony south of it? What city is its capital? How is Australia bounded? How divided? To what nation do the colonies of Australia belong? In what part of Australia is Victoria? Where is Mount Alexander?

7. In what part of Australia are the gold regions? What river is the boundary line between Victoria and New South Wales? What rivers empty into it? What strait south of Victoria? What island south of it? Where is Torres Strait? What island north of it?

8. What is the estimated extent of New Guinea? How has information respecting this island been obtained? Mention its productions. By whom is it inhabited? Where are the Admiralty Isles? How many islands compose the group? Mention the largest.

9. What island north-east of New Britain? What grows here in great abundance? Describe the natives. Where, and what is New Britain? What is the extent of the larger island? What group of islands lies south-east of New Ireland? Over what space does this group extend? Mention some of the most important islands.

10. Where are the Louisiade Isles? How many isles in this group are already known? By whom are they inhabited? Where are Santa Cruz, or Queen Charlotte's Isles? Where are the New Hebrides? How many islands compose this group? Of what origin are they? Of what race are the natives?

11. Where is New Caledonia? How far from Australia is Norfolk Island? How large is it? What is it used for? Where is New Zealand? What is it? What does it comprise? Describe the surface of these islands. Describe the vegetation. What are successfully cultivated here? Mention the chief minerals.

12. What volcano in New Ulster? Mention the probable number of British settlers in New Zealand. What city is the capital of the colony? On what island is it situated? Where is Van Diemen's Land? Describe its climate. What form here the most important source of wealth?

13. What is Hobart Town? What is here carried on extensively? Of what does Malaysia consist? Mention the chief productions. Who inhabit these islands? How many islands does the Philippine group comprise? Where does this group lie? Describe the climate of these islands. Who are the inhabitants? Who mainly conduct the export trade? In what does it chiefly consist?

14. Where is Malaysia? Of what does it consist? Who are masters of nearly the whole Archipelago? What large and important group is not under their control? To whom does it belong? Mention the most important islands of the Philippine Group. What city is the capital? On what island is it located? For what is it noted?

15. Where are the Spice Islands? To whom are they subject? For what are they celebrated? Where is Timor Island? What nations claim this island? Mention the chief exports. Describe the inhabitants. Where is Flores Island? For what is it sometimes visited? What nation has settlements on this island?

16. For what is the Island of Sumbawa noted? Where is Java? How large is this island? It nearly equals in extent one of our Western States, which one is it? To whom does Java belong? For what is it noted? Describe its surface. Describe the inhabitants.

17. Where is Batavia? Of what is it the seat? What are to be found here? Where is Sumatra? Describe its soil and climate. By whom is it inhabited? Where are the Dutch settlements on this island? For what is the Island of Banca noted? What islands are included in the Sunda Group?

18. Where is Borneo? Which has the greater extent of surface, Borneo or Sumatra? Borneo or Madagascar? What two sections of the United States does the area of Borneo exceed? Describe its soil and climate. Mention its chief mineral products.

19. By whom is Borneo inhabited? To what nations is this island subject? Where is Celebes? What waters surround this island? For what tree is Celebes noted? What is extracted from it? How is Celebes divided? What nation has authority here? Mention the leading exports. In what direction from Celebes is Asia? In what direction from Australia is Borneo?

THE CHIEF COUNTRIES OF THE WORLD;

THEIR RESPECTIVE TITLES, FORMS OF GOVERNMENT, AND PREVAILING RELIGIONS.

LESSON CLXI.

NORTH AMERICA.

COUNTRIES.	TITLE.	FORM OF GOVERNMENT.	PREVAILING RELIGION.
Russian America,	Russian Col.,	Ruled by a governor appointed by Russia,	Pagan.
British "	Brit. Colony,	Ruled by a governor-general appointed by the mother country, an executive council, a provincial and a legislative house; the latter consists of 84 members elected by the people.	Protestant and Rom. Cathol.
United States,	Republic,	A federal democratic republic; with president, senate, and house of representatives,	Protestant.
Mexico,	"	Republican; with president, etc.,	Rom. Catholic.
Yucatan,	"	United with the Mexican Confederation,	" "
Balize,	Brit. Colony,	Governed by a superintendent appointed by Great Britain, and an executive council,	
Guatemala,	Republic,	Republican; with president and a general assembly,	Rom. Catholic.
Honduras,	State,	Republican; with president, etc.,	" "
Nicaragua,	Republic,	" " " and cabinet,	" "
Costa Rica,	"	" " " etc.,	" "
San Salvador,	"	" " " "	" "

LESSON CLXII.

SOUTH AMERICA.

COUNTRIES.	TITLE.	FORM OF GOVERNMENT.	PREVAILING RELIGION.
New Granada,	Republic,	Republican; with president, senate, and congress,	Rom. Catholic.
Venezuela,	"	Republican; with president, senate, and house of representatives,	
British Guiana,	Colony,	Ruled by a lieut.-governor and a court of policy, consisting of five official & five non-official members,	Protestant.
Dutch "	"	Ruled by a governor-general & a council,	"
French "	"	" " " " assisted by a privy council and a colonial council of 16 members elected by the colonists,	Rom. Catholic.
Brazil,	Empire,	Monarchical, hereditary, constitutional, and representative,	" "
Uruguay,	Republic,	Republican; with president, etc.,	" "
La Plata,	"	Nominally a republic, but the president possesses in reality the power of a dictator,	" "
Patagonia,	Republic,	Governed by hereditary chiefs,	Pagan.
Chili,	"	Republican; with president, senate, and representatives,	Rom. Catholic.
Bolivia,	"	Republican; with president, senate, tribunes, and censors,	" "
Peru,	"	Republican; with president, senate, and chamber of deputies,	" "
Ecuador,		Republican; with president, vice-president, and a house of representatives,	" "
Paraguay,	"	Governed by a dictator, and commissioners appointed by him,	" "

LESSON CLXIII.

EUROPE.

STATES.	TITLE.	FORM OF GOVERNMENT.	PREVAILING RELIGION.
Andorra,	Republic,	Republic; with two syndics & a council,	Rom. Catholic.
*Anhalt-Bernburg,	Duchy,	Limited monarchy,	Evangelical.
*Anhalt-Dessau,	"	" "	"
*Austria,	Empire,	Absolute monarchy,	Rom. Catholic.
*Baden,	Gr'd Duchy,	Limited monarchy; two chambers,	Evangelical.
*Bavaria,	Kingdom,	" " " "	Rom. Catholic.
Belgium,	"	Constitutional monarchy; two chambers,	†Lutheran.
*Bremen,	Free City,	Republic; senate and assembly,	Calvinist.
*Brunswick,	Duchy,	Limited monarchy; one chamber,	Lutheran.
Denmark,	Kingdom,	" "	"
France,	Empire,	Const. mon.; sen. and legislative body,	Rom. Catholic.
*Frankfort,	Free City,	Republic; senate and assembly,	Lutheran.
Great Britain,	Kingdom,	Limited hered. mon.; lords & commons,	Prot. Episcop.
Greece,	"	Limited monarchy; two chambers,	†Rom. Cathol.
*Hamburg,	Free City,	Republic; senate and assembly,	Lutheran.
*Hanover,	Kingdom,	Limited monarchy; two chambers,	"
*Hesse Cassel,	Electorate,	" " " "	Reformed.
*Hesse Darmstadt,	Gr'd Duchy,	" " " "	Lutheran.
*Hesse Homburg,	Landgrav'te,	Absolute sovereignty; one chamber,	Reformed.
Holland,	Kingdom,	Limited monarchy; two chambers,	"
Ionian Isles,	Republic,	Repub., under Brit. prot.; coun. & cham.	Greek Church.
*Liechtenstein,	Principality,	Limited monarchy; one chamber,	Rom. Catholic.
*Lippe Detmold,	"	" " " "	Reformed.
*Lippe Schaumburg,	"	" " " "	"
*Lubeck,	Free City,	Republic; senate and assembly,	Lutheran.
*Mecklenb'g-Schwer.	Gr'd Duchy,	Limited monarchy; one chamber,	"
*Mecklenb'g-Strelitz,	" "	" " " "	"
Modena,	Duchy,	Absolute monarchy,	Rom. Catholic.
Monaco,	Principality,	" "	"
*Nassau,	Duchy,	Limited monarchy; two chambers,	Evangelical.
*Oldenburg,	Gr'd Duchy,	" " " "	Lutheran.
Parma,	Duchy,	Absolute monarchy,	Rom. Catholic.
Pontifical States, or States of the Church,	Popedom,	" "	" "
Portugal,	Kingdom,	Limited monarchy; two chambers,	" "
*Prussia,	"	" " " "	Evangelical.
*Reuss-Greitz,	Principality,	" " one chamber,	Lutheran.
*Reuss-Schleitz,	"	" " " "	"
Russia,	Empire,	Absolute monarchy,	Greek Church.
San Marino,	Republic,	Republic; senate and counc. of ancients,	Rom. Catholic.
Sardinia,	Kingdom,	Limited monarchy; two chambers,	" "
*Saxony,	"	" " " "	† " "
*Saxe Altenburg,	Duchy,	" " one chamber,	Lutheran.
*Saxe Weimar,	"	" " " "	"
*Saxe Coburg Gotha,	"	" " one cham. for ea. duchy,	"
*Saxe Meiningen,	"	" " one chamber,	"
*Schwarzb'g-Rudolst.	Principality.	" " " "	"
*Schwarz'g Sonder'n,	"	" " " "	"
Sicilies (The Two),	Kingdom,	Absolute monarchy,	Rom. Catholic.
Spain,	"	Limited monarchy; with a legislature,	" "
Sweden & Norway,	"	" " " "	Lutheran.
Switzerland,	Republic,	Confederation of republics; a diet,	Refor. & Cath.
Turkey,	Empire,	Absolute monarchy,	†Mohammedan
Tuscany,	Gr'd Duchy,	" "	Rom. Catholic.
*Waldeck,	Principality,	Limited monarchy; one chamber,	Evangelical.
*Wirtemburg,	Kingdom,	" " two chambers,	Lutheran.

* Forming a part of the Germanic Confederation.

† The King of Belgium is a Protestant, though his subjects are mostly Catholics; the King of Greece is a Catholic, though most of his subjects are of the Greek Church; the King of Saxony is a Catholic, though the majority of his subjects are Protestants; and about one-fourth of the European subjects of the Sultan of Turkey are Mohammedans, the remainder are chiefly of the Greek Church.

LESSON CLXIII.

ASIA.

COUNTRIES.	TITLE.	FORM OF GOVERNMENT.	PREVAILING RELIGION.
Siberia,	R. Province,	Like that of European Russia,	Pagan.
Chinese Empire,	"	Despotic,	Buddhism.
Anam,	"	"	"
Siam,	Kingdom,	"	"
Birmah,	Empire,	"	"
Hindostan,		Partly under the control of several European powers, and partly governed by native princes, or chiefs,	Brahminism & Mohammedan.
Beloochistan,	Khanate,	Despotic—ruled by a Khan,	"
Arabia,		Governed by several native chiefs,	"
Turkey,	Empire,	Like that of European Turkey,	Mohammedan and Armenian.
Georgia,	R. Province,	" " " Russia,	Greek Church.
Persia,	Empire,	Despotic,	Mohammedan.
Independ. Turkestan,		Governed by several native chiefs,	"
Afghanistan,		Divided into three chiefships, and governed by native chiefs,	"

AFRICA.

COUNTRIES.	TITLE.	FORM OF GOVERNMENT.	PREVAILING RELIGION.
Morocco,	Empire,	Despotic,	Mohammedan.
Algiers,	French Col.,	Ruled by a governor-general appointed by France,	Mohammedan. and R. Cathol.
Tunis,	Beylik,	Despotic,	Mohammedan.
Tripoli,	Pashawlic,	"	"
Egypt,	Kingdom,	"	"
Nubia,	"	Under the dominion of Egypt,	"
Abyssinia,		Monarchical,	A corrupt Christianity.
Somauli Territory,		A part of this territory is ruled by a sultan,	Pagan and Mohammedan.
Zanguebar,		Governed by various kings and chiefs,	Pagan and Mohammedan.
Mozambique,		" " " "	Pagan.
Zoolu Country,	"	" " " "	"
Natal,	British Col.,	Partly under the control of Great Britain,	"
Caffraria,	" "	" " " " "	"
Cape Colony,	" "	Ruled by a governor appointed by Great Britain, and an executive council,	Protestant.
Country of the Hottentots,		Governed by native chiefs,	Pagan.
Country of the Cimbebas,		" " "	"
Guinea,		Despotic; the country is divided into several kingdoms,	"
Liberia,	Republic,	Like that of the United States,	Protestant.
Sierra Leone,	British Col.,	Ruled by a governor appointed by Great Britain,	"
Senegambia,		Despotic; the country is divided into several states,	Pagan and Mohammedan.
Sahara,		The fertile spots in this desert are governed by native chiefs,	Pagan and Mohammedan.
Soudan,		Ruled by numerous kings, or chiefs,	Pagan and Mohammedan.

PART II.

MATHEMATICAL GEOGRAPHY.

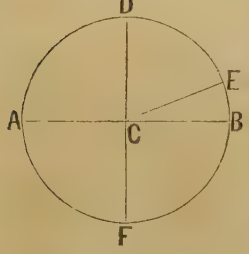
CHAPTER I.

DEFINITIONS—MOTIONS OF THE EARTH.

MATHEMATICAL GEOGRAPHY is that branch of science which includes a description of the earth as a planet, treating of its form, its magnitude, its motion, and of the various imaginary lines upon its surface.

REMARK TO THE PUPIL.—We here introduce for your study the definition of certain geometrical figures with which you should be acquainted, in order to enable you fully to comprehend what is said respecting the form and motions of the earth.

Definition of a Circle.—*A Circle* is a plane figure bounded by one continuous line, called its *circumference;* all the points of which are equally distant from a point within called the *centre* of the circle.

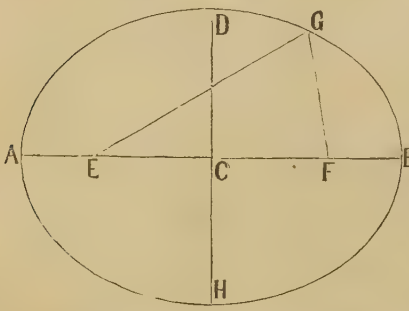


Thus, in the adjoining figure, if the points A, D, E, and B are equally distant from the point C, they will be situated in the circumference of a circle, whose centre is at C.

The equal lines drawn from the centre of a circle to its circumference are each called a *radius.* Thus, each of the lines C A, C D, C E, and C B, is a radius.

A line such as A B, passing through the centre and terminating in each direction in the circumference, is called a *diameter* of the circle. All diameters of the same circle are equal, each being the sum of two opposite radii.

Definition of an Ellipse.—*An Ellipse* is a plane figure bounded by one continuous line called its *circumference*, which, like the circle, has a centre, but the points in its circumference are not all equally distant from the centre, neither are all its diameters equal.



The longest line, as A B, that can be drawn through the centre, terminating in the circumference, is called the *transverse diameter;* and the shortest line as D H, is called the *conjugate diameter.*

In an ellipse there are always two points, E and F, in the transverse diameter, so situated that the sum of any two lines such as E G, F G, drawn from them to the same point in the circumference, is always equal to the transverse diameter. Each of these points is called a *focus* of the ellipse.

An Angle and its Measure.—The difference in direction of two lines proceeding from the same point is called an *angle.*

If the circumference of a circle be described having for its centre the angular point, the arc comprised between the two points forming the angle may be taken as the *measure of the angle.*

If the entire circumference of a circle be divided into 360 equal portions, each one of these portions or arcs may be regarded as measuring an angle of one degree.

Thus, for example, if the arc B E (see first diagram) contains 20 of these equal divisions, the angle B C E is called an angle of twenty degrees, usually written 20°.

The sixtieth part of a degree is called a *minute*, and the sixtieth part of a minute is called a *second.*

The mark for minutes is (′), that for seconds is (″). Thus, twenty-three degrees, twenty-seven minutes, and thirty seconds is usually written 23° 27′ 30″.

If radii be drawn dividing the circumference into four equal portions, each angle thus formed will be an angle of 90°, and the diameters thus formed will be perpendicular to each other.

Since an angle of one degree is measured by the 360th part of the

circumference of a circle, having its centre at the angular point, it follows that the circumference of any circle, whether great or small, may be regarded as the measure of 360 degrees. Consequently, the length of the arc measuring any given angle must vary with the magnitude of the radius.

Definition of a Sphere.—*A Sphere* is a body bounded by one continuous surface, every point of which is equally distant from a point within called its *centre*. Any line drawn from the centre to the surface is called a *radius*. A line passing through the centre and terminating in each direction at the surface is called *a diameter*. All diameters of the same sphere are equal, being the sum of two opposite radii.

If a sphere be divided by a plane, the section will be a circle. The circular section thus formed will be the greatest when the dividing plane passes through the centre of the sphere, in which case it is called a *great circle* of the sphere. In all other cases the radius of the circular section will be less than the radius of the sphere, and such sections are called *lesser circles* of the sphere. The two halves into which a sphere is divided by a great circle are called *hemispheres*.

MOTIONS OF THE EARTH.

From astronomical observations aided by mathematical investigations, we learn that the Earth moves in a plane about the Sun in an elliptical orbit, having the sun in one of its foci; that its mean distance from the sun is about 95,000,000 of miles; that it is nearest the sun about the 31st of December, or the 1st of January, and furthest from the sun about the 30th of June or the 1st of July, and that the difference between these extreme distances is about 3,000,000 of miles.

The Earth's Annual Revolution.—This revolution about the sun is called the *earth's annual revolution*.

The Earth's Orbit, etc.—The length of the earth's orbit, or path, is estimated at 600,000,000 miles. As the earth travels this distance in about 365 days, its annual motion must exceed 68,000 miles an hour. In consequence of the earth's annual motion, the sun seems in the course of a year to describe a circuit in the heavens called the *ecliptic*, and in the same direction as the earth actually describes it.

The Earth's Axis of Revolution.—While the earth is performing its annual revolution, it is constantly and uniformly revolving about one

and the same diameter, which diameter is for this reason called the *earth's axis of revolution.*

By this revolution, which is performed in about 23 h. 56 m. 4 sec., the heavenly bodies appear to move in an opposite direction. It is this motion on its axis, which causes the succession of *day* and *night.*

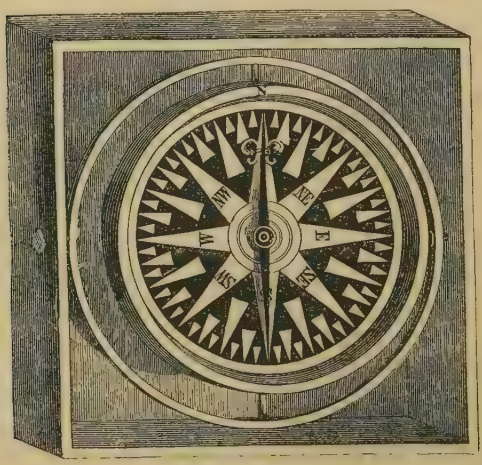
The direction toward which we are carried by the revolution of the earth is called *East*, and the opposite direction in which the heavenly bodies appear to move is called *West.*

As the equatorial circumference of the earth is about 25,000 miles, the daily motion of the surface at the equator, is a little more than 1,000 miles an hour. It must, however, be borne in mind that this velocity (owing to the form of the earth) gradually diminishes from the equator to the poles, where it altogether ceases.

The revolution of the earth about the sun, and the inclination of its axis to the plane of its orbit, cause the *change of seasons.*

The extremities of the earth's axis are called the *poles of the earth.* The one to which we are the nearest is called the *North Pole*, the opposite one is called the *South Pole.*

The four directions, North, East, South, and West are called the *four cardinal points of the compass.*



The Mariner's Compass.

The Mariner's Compass is a circular box, containing a paper card marked with the points of direction, and attached to a magnetic needle, which, when allowed to move freely, always points toward the north.

It must be borne in mind, however, that the magnetic needle does not point *exactly* north and south in all places. It is subject to some variation, and it points to the *true* north and south only when it is situated in certain places on the surface of the globe. A line drawn through these places is called the *Line of no Variation.*

Nearly on the 70th parallel north and south, on the former about 100° W., and on the latter 150° E., are two points toward which the magnetic needle always points; these points are called the *Magnetic Poles.*

A magnetic needle, placed that it moves freely in a *vertical* as well as a horizontal direction, is called a *Dipping Needle.*

If a dipping needle be carried from the neighborhood of the equator it gradually loses its horizontal position and finally hangs vertically. The point in each hemisphere where this occurs is called the *Pole of Magnetic Dip.*

CHAPTER II.

DEFINITIONS—FIGURE OF THE EARTH.

Zenith and Nadir.—Every particle of the earth's matter is attracted toward its centre. This direction, that is, from any point on the surface to the centre, is what we call *down;* the opposite direction, that is, away from the earth's centre, we call *up.*

If from any point of the earth's surface we suppose a line drawn directly upwards, the point in the heavens toward which this line is drawn is called the *zenith* of the place. The opposite point of the heavens, that is in the downward direction, is called the *nadir* of the place.

The Horizon.—The line that bounds the view is called the *visible, or sensible horizon.* If the earth were perfectly spherical, this line would always be the circumference of a circle. The more elevated the spectator's position, the larger is his horizon.

If a plane were passed through the centre of the earth parallel to the visible horizon, it would form what is called the *rational horizon* which divides the earth into upper and lower hemispheres.

The heavenly bodies situated above the rational horizon are visible, while those below are invisible.

By reason of the earth's motion on its axis, the zenith and nadir are continually changing their position, and the plane of the horizon is constantly taking different positions in reference to the heavenly bodies. These changes would also occur by a change of place on the part of the spectator even were the earth stationary.

The Equator and Meridians.—The great circle equally distant from the two poles of the earth is called the *equator.* The plane of the equator extended to the heavens forms a great circle called the *equinoctial.* Any great circle passing through the two poles is called a *meridian circle.* The half of a meridian circle comprised between the

poles is called a *meridian*. There is but one equator to the earth, but every place upon its surface has a meridian.

Latitude and Longitude.—For the purpose of obtaining a correct knowledge of the relative positions of the various parts of the earth's surface, each point is given in reference to its distance from the equator, and from some fixed meridian taken as a primitive, or first meridian.

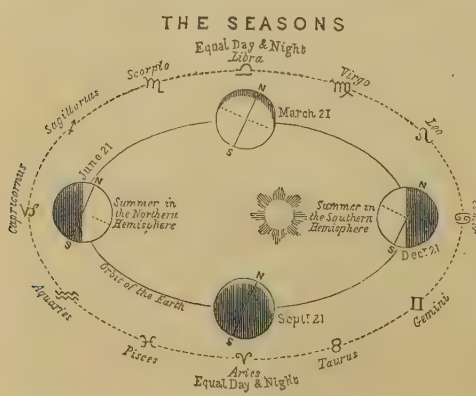
The distance of a place from the equator measured in degrees is called the *latitude of the place*. The distance measured in degrees on the equator between the meridian of any place and the first meridian is called the *longitude of the place*.

All places north of the equator have North latitude, those south of the equator are in South latitude. Places east of the first meridian are in *East longitude*, those west of the first meridian are in *West longitude*.

Lesser circles drawn parallel to the equator are called *parallels of latitude*.

On artificial globes it is usual to draw parallels of latitude once in every 10°, and meridians once in every 15° of longitude. Meridians thus drawn are frequently called hour circles, for a reason which will appear when we speak of local time.

The Tropics and the Polar Circles.—During the annual revolution of the earth about the sun, the plane of the earth's equator is always inclined to the plane of the earth's orbit about 23° 27′; consequently the apparent place of the sun will be constantly varying as to its distance from the plane of the equator, limited to the distance of 23° 27′ on each side of the equator.



As the sun there appears to turn and take a contrary direction, the parallels 23° 27′ from the equator are called *tropics;* the one north of the equator is called the *Tropic of Cancer*, the one south of the equator is called the *Tropic of Capricorn.*

If we suppose a line to be drawn from the centre of the sun to the centre of the earth, it will meet the surface of the earth at a point just 90° distant from the circle limiting the enlightened hemisphere of the earth. Consequently, when the sun is vertical at the tropic of Cancer, which takes place about the 21st of June, the illuminated hemisphere will extend 23° 27′ beyond the North pole, and will fall short of reaching the South pole by the same number of degrees.

When the sun is vertical at the tropic of Capricorn, about the 21st of December, the circle of illumination extends 23° 27′ beyond the South pole, and falls short of reaching the North pole by the same number of degrees. For this reason, parallels of latitude are distinctly marked at the distance of 23° 27′ from each pole, called *Polar Circles.* The one encircling the North pole is called the *Arctic Circle;* that which encircles the South pole is called the *Antarctic Circle.*

Zones.—The tropics and polar circles divide the surface into five distinct portions called *zones.* The portion between the tropics, is called the *torrid zone.* The portions bounded by the polar circles are called *frigid zones*, the one being called the *north frigid zone* and the other the *south frigid zone.* The two intermediate portions, situated between the torrid zone and the frigid zones, are called respectively the *north temperate zone* and the *south temperate zone.*

Length of the Civil or Solar Day.—We have already said that the earth performs a revolution on its axis once in about 23 h. 56 m. 4 sec. While it is revolving on its axis, it is at the same time moving in the same direction in its orbit about the sun, consequently, after any particular meridian passes the sun, it will not again be brought to the sun until after the earth has performed more than one entire revolution. The average time between two consecutive returns of the same meridian to the sun is 24 hours, or one *civil or solar day.*

Local Time.—As the timekeepers, for civil reckonings of each place, are so adjusted as to represent 12 o'clock noon, when the sun would appear on the meridian were the apparent motion uniform, it follows that local clocks or watches situated 15° apart in longitude must differ just one hour, and for other distances the difference in time will be at the rate of one hour for each 15°. And since the earth revolves towards the east, it follows that the clock having the more easterly position will give a later hour than will be given by the other at the same absolute time.

If a person on the equator were to travel directly west a distance of about 69¼ miles, or one degree, his watch ought to be four

minutes later than the time indicated by the clock at the place he has reached. As the meridians all pass through the poles, it follows that a person traveling on a parallel of latitude would pass, in going from one meridian to another, a less distance than would be required at the equator.

For this reason we say the degrees of longitude decrease as we pass from the equator toward the poles. At the poles the length of a degree of longitude is reduced to zero, since all the meridians pass through these points. At 60° latitude, that is on the parallel of 60°, the length of a degree of longitude is one half the length of an equatorial degree.

Figure of the Earth.—Geometrical investigations, as well as actual measurements of various portions of its surface, show us that the form of the earth is not perfectly spherical, but that it differs from a sphere by being compressed or flattened about the poles.

Its form is nearly that of an *oblate ellipsoid;* but being of no exact geometrical figure it is usually called an *oblate spheroid.* Its axis is the shortest diameter, being about 7,899.17 miles. The diameters through the equator are equal, each being about 7,925.64 miles. The poles are consequently 13 miles nearer the centre than the equatorial portions. The ratio of the polar diameter to the equatorial diameter is about as 298 to 299.

REVIEW LESSONS.

QUESTIONS ON MATHEMATICAL GEOGRAPHY.

LESSON I.

1. What is Mathematical Geography? What is a circle? What is a radius? What is the diameter of a circle? How are all diameters of the same circle? What is an ellipse? What is the transverse diameter? The conjugate? What is the focus of an ellipse?

2. What is an angle? What is meant by the measure of an angle? What may be regarded as measuring an angle of one degree? How are degrees usually written? What is the sixtieth part of a degree called? The sixtieth part of a minute? How are minutes usually written? How seconds?

Mr. Swanberg, a Swedish mathematician, found the length of a degree to be 365,627.782 English feet=69.247 miles.

3. If radii be drawn dividing the circumference of a circle into four equal portions, how many angles will be formed? What will be the measure of each? By what is an angle of one degree measured? How does the length of an arc measuring any given angle vary? Explain this.

4. What is a sphere? What is a great circle of a sphere? What are the lesser circles of a sphere? What are hemispheres? What has been ascertained respecting the motions of the earth?

5. What is the earth's revolution about the sun called? What is the estimated length of the earth's orbit? What is the earth's annual motion per hour? What does the sun *seem* to describe in the course of a year? To what is this owing? What is this circuit called?

6. What is called the earth's axis of revolution? In what time does the earth perform one complete revolution on its axis? What does this revolution occasion? What is called east? What west?

7. What cause the change of seasons? What are the poles of the earth? Which is the north pole? Which the south pole? What are the points north, east, south, and west called? What is the Mariner's Compass? Does the magnetic needle always and in all places point *exactly* north?

8. Describe the situation of the earth's magnetic poles. What is a dipping needle? How is a dipping needle affected when carried from the neighborhood of the equator? What is called the pole of magnetic dip?

LESSON II.

REVIEW QUESTIONS.—(CONTINUED.)

1. Describe what we call *down*. What do we call *up*? What is the zenith of a place? What the nadir? What is the visible, or sensible horizon? Describe the rational horizon. How does it divide the earth?

2. Describe the effect of the earth's motion about its axis on the zenith and nadir points. Do these changes occur in any other way? What is the equator? What the equinoctial?

3. What is a meridian circle? What is a meridian? How many equators are there? How many meridians? What is the latitude of a place? The longitude? What places have north latitude? What south? What places have east longitude? What west?

4. What are parallels of latitude? How are parallels usually drawn on artificial globes? How meridians? What are meridians when thus drawn called? Describe the tropics.

5. Describe the polar circles. What is the one surrounding the north pole called? What is the one surrounding the south pole called? Into how many distinct parts do the tropics and polar circles divide the earth's surface? What are these parts called?

6. How many frigid zones are there? Where is each situated? How many temperate zones are there? Where is each situated? What zone lies between the two temperate zones?

7. What is the length of a civil or solar day? How are time-keepers for civil reckonings adjusted? How much will local clocks differ for every 15° in longitude? In what direction does the earth revolve? Which clock gives the later hour, the one having the more easterly or the more westerly position?

8. How do the degrees of longitude decrease? What is the length of a degree of longitude at the equator? At the poles? At the 60th degree of latitude? How does the earth differ in form from a sphere?

9. What figure does it nearly resemble? What is it called? What is the length of the shortest diameter of the earth? The longest? How far is each pole from the centre of the earth?

10. How much nearer are the poles to the centre of the earth than are the equatorial portions? What is the ratio of the polar diameter to the equatorial? What does the flattening, or depression, of the earth about the poles cause? Where are the degrees of latitude and longitude of the same length?

TABLE,

SHOWING THE LENGTH OF A DEGREE OF LONGITUDE AT VARIOUS LATITUDES.

Deg. Lat.	English Miles.	Deg. Lat.	English Miles.	Deg. Lat.	English Miles.	Deg. Lat.	Eng. Miles.
0	69·07	23	63·51	46	47·93	69	24·73
1	69·06	24	63·03	47	47·06	70	23.60
2	69·03	25	62·53	48	46·16	71	22·47
3	68·97	26	62·02	49	45·26	72	21.32
4	68·90	27	61·48	50	44·35	73	20·17
5	68·81	28	60·93	51	43·42	74	19·02
6	68·62	29	60·35	52	42·43	75	17.86
7	68·48	30	59·75	53	41·53	76	16·70
8	68·31	31	59·13	54	40·56	77	15·52
9	68·15	32	58·51	55	39·58	78	14·35
10	67·95	33	57·87	56	38·58	79	13·17
11	67·73	34	57·20	57	37·58	80	11·98
12	67·48	35	56·51	58	36·57	81	10·79
13	67·21	36	55·81	59	35·54	82	9·59
14	66·95	37	55·10	60	34·50	83	8·41
15	66·65	38	54·37	61	33·45	84	7·21
16	66·31	39	53·62	62	32·40	85	6·00
17	65·98	40	52·85	63	31·33	86	4·81
18	65·62	41	52·07	64	30·24	87	3·61
19	65·24	42	51·27	65	29·15	88	2·41
20	64·84	43	50·46	66	28·06	89	1·21
21	64·42	44	49·63	67	26·96	90	0·00
22	63·97	45	48·78	68	25·85		

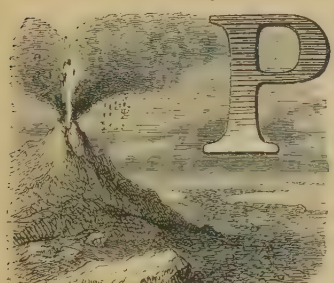
REMARK.—The length of a degree in the above table is 69·07 English miles.

PART III.

PHYSICAL GEOGRAPHY.

CHAPTER I.

DEFINITION—THE STRUCTURE OF THE EARTH—THE EARTH'S DENSITY.



PHYSICAL GEOGRAPHY is that branch of science which includes a description of the solid and fluid parts of the earth's surface; of the atmosphere which surrounds it, and of all animal and vegetable life.

Composition and Structure of the Earth.—The full investigation of this subject belongs properly to Geology; but a brief glance at some general facts may enable us to comprehend more clearly the character of the mineral productions of various countries, which comes strictly within the scope of Physical Geography.

It is generally supposed that the interior of the earth is in a state of intense heat, and that the surface is a comparatively thin crust produced upon the melted mass by its cooling down externally. Of its structure, we know but little by actual inspection, as the deepest mine or shaft yet sunk, has not penetrated more than one-third of a mile; but by reasoning from the inclination of the strata at or near the surface, a pretty satisfactory idea of the structure of the earth to the depth of about ten miles has been obtained.

The materials of the earth's crust are not thrown together confusedly; but distinct systems of rocks* are found occupying definite spaces, and exhibiting a certain order in their arrangement.

* Geologists employ the term *rock* to indicate any mineral deposit or stratum, whether it be cohesive like granite and marble, or loose, like sand, clay, gravel, and common mould.

The rocks composing the earth's crust, may be divided into two great classes:

1st. The Igneous, or Plutonic Rocks;

2d. The Aqueous, or Sedimentary.

The *Igneous Rocks* are such as appear to have been formed by the agency of heat and enormous pressure. They are found lying beneath all other rocks, so that it is supposed they constitute the first crust originally formed on the surface of the globe. They are also found in some instances above all other rocks, and hence it is presumed that they have been ejected in a softened state, by successive exertions of volcanic forces.

The *Aqueous Rocks* are such as appear to have been formed by gradual deposits from water, in the form of mud, sand, crystals, or gravel. These are found more or less consolidated, or hardened into solid rocks which are stratified, that is, arranged in parallel layers, and they contain the remains of animals and vegetables. Igneous rocks are crystalline in their structure, exhibiting no trace of stratification, and containing neither animal nor vegetable remains.

The aqueous rocks may be arranged in three groups, the *metamorphic, or primary*, the *secondary*, and the *tertiary*. The metamorphic group is very widely spread over the earth's surface, forming a part of almost all lofty mountain ranges.

This group of rocks is destitute (like the igneous) of both animal and vegetable remains. The secondary rocks are full of the remains of shell animals, fishes, reptiles, and of vegetables formed into coal, and lignite or fossil wood. The tertiary rocks consist of friable limestone, gypsum, sand, and clay; and they contain the remains of shell animals, reptiles, birds, and quadrupeds.

From the igneous, or plutonic rocks, we obtain stone for building, such as granite and porphyry. From the aqueous rocks we obtain sandstone, freestone, and flag-stones for building; and limestone and gypsum for building and agricultural purposes. Salt also is obtained from these rocks, both from mines and salt springs. Slate, and the various metallic ores are found chiefly in the metamorphic group.

Coal and ironstone, lead, and zinc ore, are found in the secondary group of rocks. From the tertiary group we obtain gravel for road-work, etc.; sand for making glass and china; clay for bricks and earthenware; loam for agricultural uses; and, in some places, also stone for building.

The common soil is composed of the sand and dust of solid rocks,

containing the simple earths, aluminum, or clay, silex, quartz, or flint, lime, soda, and potassium. With these earths is blended decayed animal and vegetable matter.

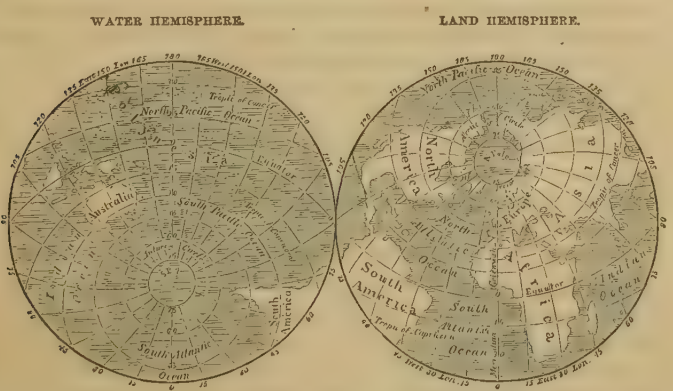
The Density of the Earth.—The earth is five times heavier than a globe of water of equal bulk would be; but the density of the rocky crust is only two and a half times that of water. It is probable, then, that the earth increases in density from the surface toward the centre.

CHAPTER II.

DISTRIBUTION OF LAND AND WATER—ARRANGEMENT OF THE LAND—FORM OF THE CONTINENTS—MOUNTAIN CHAINS.

General Distribution of Land and Water.—The great cavities, or depressions, on the surface of the globe are occupied by the ocean, which separates and surrounds the more elevated portion of the earth's crust. By far the greater part of the surface is covered by the ocean.

The following Map of the World in Hemispheres, projected upon the plane of the horizon of London, shows the unequal distribution of land and water.



In consequence of the very unequal arrangement of the solid and fluid portions of the surface of the globe, England is nearly in the centre of the greatest mass of land, and its antipode, the Island of New Zealand, is nearly in the centre of the greatest mass of water.

Arrangement of the Land, etc.—The land may be arranged under two principal heads, viz., Continents and Islands.

There are three vast and detached portions of land on the globe, to which the name continent may with great propriety be applied; the largest of these is styled the Eastern Continent; the next in size, the Western Continent; and the smallest the South-eastern, or Australian Continent.

The term continent is sometimes applied to each of the grand divisions of the earth, and also to a partially explored region in the vicinity of the south pole.

Form of the Continents, etc.—Upon examining what is termed the *horizontal profile* of the land, we find that, though the waters of the ocean have worn the coast-line of the land into numerous gulfs and inlets, it is, nevertheless, remarkable that the continents preserve in their general outline a certain triangular form.

The Eastern and Western Continents present to the sea on their northern sides broad flats of low-lying land, while the southern coasts are rocky, pointed, and elevated.

While considering the general configuration of the continents, we would further observe, that the proximate sides of the Eastern and the Western Continent, which border on the Atlantic, appear as though they were influenced, in some measure, by the forms of each other: thus the coast of Brazil, which forms the prominent eastern projection of South America, is opposite to the Gulf of Guinea; while the great western projection of Africa is counterbalanced by the basin of the Caribbean Sea and the Gulf of Mexico.

Features of the Land.—The surface of the land is greatly diversified. In some parts it is elevated into mountains and highlands; in others, it is spread out into plains or depressed into valleys.

MOUNTAINS.

Mountains.—Mountains are generally arranged in groups or chains.* Several connected chains are called a *system*.

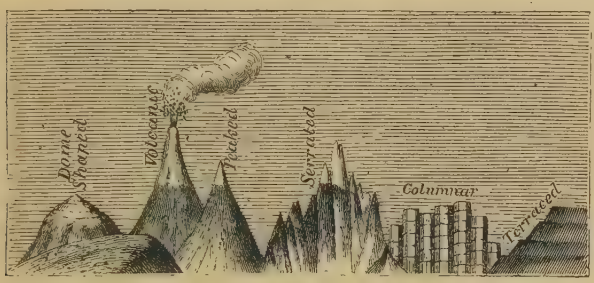
All eminences whose height exceeds 1,000 feet, are regarded by most geographers as mountains, and those of less altitude as hills.

Mountains rarely occur solitary in plains, and remote from other

* By the term chain, when applied to elevations on the earth's surface, is meant a succession of hills or mountains, forming a continuous band, whose breadth is little or insignificant compared with its length.

It is, however, applied not only to an uninterrupted band of projections, but to a range of eminences, here and there detached, yet lying so nearly in the same general direction as to indicate a continuous base.

masses. Those that are so situated are generally active or extinct volcanoes. Among the most striking examples of solitary, or insular, mountains, are the Peak of Teneriffe, the Rock of Gibraltar, Mount Egmont in New Zealand, Mount Etna in Sicily, Mount Ararat in Asia Minor, and Mowna Roa in the Island of Hawaii.



Forms of Mountains.

Various forms of mountains are shown in the above diagram. Some shoot up into sharp pyramidal peaks, others have a more rounded contour. The form of mountains depends chiefly on the geological character of their composition.

Slope or Declivity of Mountains.—Mountain chains are usually much more steep on one side than on the other. The Rocky Mountains have their longest * slope on the eastern side; the Andes rise abruptly from the sea on the western side, and slope gently toward the eastern plains; the Scandinavian Chain rises much more suddenly on the west and north, than on the east and south; the Himalaya Chain slopes gradually on the northern side, but its declivities are steep and abrupt on the southern side.

The Atlas Chain gradually declines toward the Great Desert, but is very abrupt on the side toward the Mediterranean Sea. The Pyrenees descend on the French side, much less rapidly than on the Spanish, or south side; and the Alps are steeper on the Italian side, than on that of Switzerland.

From the above we gather the following facts:—that in the Old World the long slopes are generally turned toward the north, and the short slopes toward the south; while in the New World, the long or

* The less steep side of a hill or mountain is called the *slope*, and the steeper side the *counter-slope*.

gentle slopes descend toward the east, and the short or abrupt slopes toward the west.

With regard to the slope of mountain chains, we must consider it as the inclination of a line supposed to be drawn from their summits to the plain: the angle included between this line and the mean level of the plain varies generally from two to six degrees. Mountains whose slope exceeds seven or eight degrees cannot be ascended by carriages; and an inclination of fifteen or sixteen degrees would be considered very steep for beasts of burden.

Elevation of Mountains.—The highest mountain range in the world is the Himalaya. Its mean elevation is estimated at from 16,000 to 20,000 feet. Forty of its peaks exceed 20,000 feet in height.

The loftiest mountain peak in	North	America	is	Mount St. Elias—	17,900	feet.
"	"	"	South	" Aconcagua	23,910	"
"	"	"	Europe	Mont Blanc	15,732	"
"	"	"	Asia	Kinchinginga	28,178	"
"	"	"	Africa	Kilimandjaro	20,000	"
"	"	"	Oceania	* Ophir	13,842	"

Elevations, comparatively considered.—Though mountains appear to be enormous protuberances upon the earth's surface, they are very inconsiderable when compared with the whole mass of the globe. The loftiest peak, which attains an elevation of a little more than five miles above the level of the sea, is only about one eight-hundredth part of the earth's radius, or semi-diameter.

Direction of Mountain Chains.—In all mountainous regions, the direction of the axis, or principal range, usually accords with that of the greatest extension of land; the length of mountain ranges is, therefore, generally very great in proportion to their width.

In the Old World, especially in that portion which comprehends the divisions of Europe and Asia, the principal extension is from east to west; whilst in the New World, or America, it is from north to south. In both cases, this extension is in the direction of the principal mountain ranges. The same character is observable in smaller portions of land.

Could a spectator command a view of the globe, supposing him to stand in Australia, facing the north, he would see on his right hand a continuous system of high mountains extending along the entire western coast of America, linked with Asia by the Aleutian Isles. He would see also a chain on his left hand running along the coast of Africa, passing through Arabia into Persia, ming-

* In Sumatra, about 70 miles N. W. of Padang.

ling there with the ranges that traverse Europe from the Atlantic, and merging in the mountains of Central Asia, which are continued north-easterly to Behring Strait.

Thus, while these chains of mountains, viewed in detail, appear isolated and unsystematic, yet, when contemplated as a whole, they seem to constitute one immense range forming an irregular curve (with outshoots here and there) and encompassing the great Pacific, on the north, east, and west.

Use of Mountains.—The elevations which mark the face of the earth, whether rising to the stately proportion of mountains, or forming only the rounded, green-clad hills, give interest, grace, or sublimity to the landscape.

But mountains perform a more important office than this. They attract the clouds and store up their precipitated waters in interior reservoirs, whence they issue in streams, from thousands of springs, to water and fertilize the soil; they increase the surface of the earth, and give richness and variety to its vegetable productions; and they are the great storehouses of inexhaustible mineral treasures.

CHAPTER III.

VOLCANOES—EARTHQUAKES.

Volcanoes.—Those mountains from whose summits or sides issue flame, smoke, and streams of melted rock, or lava, are called *Volcanoes.* Some volcanoes eject mud, and are styled *Mud Volcanoes;* some emit sulphureous and other vapors, and are called *Solfataras* (sulphur grounds); others emit water, and are called *Water Volcanoes.*

The Crater of Vesuvius.

Volcanoes are either continuously active, occasionally active, or extinct. Stromboli, on one of the Lipari Isles, is an example of a continuously active volcano. It is rarely violent, but emits a constant light, and serves as a light-house to the mariner in that part of the Mediterranean.

Causes of Volcanic Eruptions.—The expansion, or explosion, of gases and vapors, produced by heat, or the accumulation of electric matter transmitted in currents along the strata in the interior, has been assigned as the cause of volcanic eruptions.

Barren Island, Bay of Bengal.

Distribution of Volcanoes.—Traces of extinct volcanoes are found in nearly all parts of the earth.

In Asia and America a band of active volcanoes may be traced, beginning at Barren Island in the Bay of Bengal (about 50 miles east of Great Andaman Island), extending through Sumatra, Java, the Moluccas, or Spice Islands, the Sunda Isles, the Philippines, the Japan, and Kurile Isles, the Peninsula of Kamtchatka, the Aleutian Isles, and thence through the Rocky Mountains, the Cordilleras of Mexico, and Central America, the Andes of South America, the Island of Terra del Fuego, and Victoria Land.

Throughout the whole of Southern Continental Europe, and the islands in the adjacent seas, traces of a volcanic character are met with. This volcanic district commences at the Azores and extends to the Caspian Sea, having for its northern boundary the Tyrolean and Swiss Alps, and for its southern the northern kingdoms of Africa. Etna, Vesuvius, and Stromboli are at present the prominent active vents.

In most of the island groups of Oceania, there are abundant traces of volcanic energy. In the Sandwich Isles there are two active volcanoes of great height. In the West India Isles there are several active and extinct volcanoes. The Western, or Hebridean Isles, exhibit traces of volcanic action; and lonely Iceland, situated in the regions of eternal snow, contains no less than 30 volcanoes, eight of which have been active within a century.

Number of Volcanoes.—It is supposed that there are about 300, of which two-thirds are situated on islands. It is a singular fact, that in the New World the active volcanic sites are chiefly continental, while in the Old World they are found mostly in islands. This will be perceived by examining the following table:—

TABLE, SHOWING THE DISTRIBUTION OF VOLCANOES.

In America,	on the continent	86	on islands	28
" Europe,	"	4	"	20
" Asia,	"	17	"	29
" Africa,	"	2	"	9
" Oceania,			"	108

Utility of Volcanoes.—Volcanoes may be regarded as the great safety-valves of the globe, by which elastic matters are permitted to discharge themselves, without causing too great or too extended a strain upon the superficial strata.

"Fatal to human life as the eruptions of volcanoes have occasionally been, large views of such physical phenomena will awaken impressions at variance with those which their detached observation often excites."

"Certainly nothing is more true than that the same agency which is occasionally destructive in a few spots on the world's expanse, has operated in forming or upheaving the universal crust of the globe, and has thus been the means of building up sure resting-places for unnumbered myriads of the human family." It is this protruding or elevating power also that has rendered the coal formations and mineral veins of the earth accessible to man.

The surface of the dry land is incessantly crumbling down into sand and dust by the action of the air and moisture, by frost splitting up rocks, and by the abrading force of rivers and the ocean. In the course of time these processes would level the continents and islands, were there not agencies at work to counteract. One of these agencies is, without doubt, volcanic action.

EARTHQUAKES.

Earthquakes.—Closely allied to volcanoes are earthquakes. They are most common in volcanic districts, and it has been remarked that they frequently precede volcanic eruptions, and cease afterwards.

Cause of Earthquakes.—It is probable that they owe their origin to the expansive force of steam, generated in the earth, which, in order to obtain a vent, agitates more or less violently the surface.

Character.—Earthquakes differ in intensity; sometimes causing only a slight motion of the surface, and at other times they are so violent and powerful as to rend the earth and ingulf whole towns and villages.

The first shock of an earthquake seldom lasts longer than a minute, but successive shocks are sometimes felt at very short intervals

Kinds of Motion.—The motion of the earth's surface, caused by earthquakes, is not always of the same character; and it appears that the damage produced depends less on the violence of the shock, than on the manner in which the ground is put in motion. There are four kinds of movements which have been noticed, viz.,—*tremulous*, *undulating*, *upheaving*, and *rotary*. The rotary shocks are the most destructive, and are those which occur most rarely.

CHAPTER IV.

TABLE-LANDS—LOWLAND PLAINS.

Table-lands, or *Plateaus*, are extensive tracts whose general level is considerably above that of the sea. They are sometimes called Mountain, or Upland Plains.

Table-Lands in North America.—Along the eastern base of the Rocky Mountains, and for about 400 miles eastward, is a series of table-lands of from 2,000 to 3,000 feet in height: the plateau of Utah, between the Rocky Mountains and the Sierra Nevada, has an elevation of from 4,000 to 5,000 feet; the immense plateau of Mexico, extending from about the 42d parallel to the Isthmus of Tehuantepec, is from 6,000 to 9,000 feet in elevation; and to the south of the Mexican plateau are those of Guatemala and Honduras, in Central America. These exceed 6,000 feet in height.

Table-Lands in South America.—In this part of the earth are found some of the highest table-lands on the globe. The plateau of Quito, which stretches on both sides of the equator, is 9,000 feet in elevation; that of Pasco, between the 10th and the 12th parallel of south latitude, is upwards of 11,000 feet high; and that of Potosi or Titicaca, between the 14th and the 21st parallel of south latitude, is from 12,000 to 13,000 feet above the level of the sea.

Table-Lands in Europe.—The table-lands of Europe are small, compared with those of South America and Asia. The south-west portion of the Scandinavian Peninsula (Norway and Sweden) constitutes a plateau of moderate elevation. Bavaria is a table-land of about 2,000 feet in height; and the central portion of the Spanish Peninsula consists chiefly of an elevated plateau, which attains on its north side a height of 3,000 feet, and on its south about 2,000 feet.

Table-Lands of Asia.—No other grand division of the earth exhibits plateaus so elevated, so numerous, and so extensive, as Asia.

The whole of Central Asia consists of one vast plateau, embracing

an area of about 3,000,000 square miles. Its elevation is not uniform; the northern and eastern portions are about 4,000 feet above the level of the sea, while the southern and south-western are, at least, 12,000 feet in height.

The principal part of South-western Asia is elevated into table-lands, varying from 2,000 to 4,000 feet in height.

The plateau of the Deccan in Hindostan, which is separated from the great Asiatic central table-land by the basin of the Ganges, has an elevation of about 2,000 feet.

Table-Lands of Africa.—That portion of Africa which comprehends Sahara, constitutes an immense table-land of small elevation.

It is generally believed that the greater part of Central Africa is an enormous plateau, whose general height is about 8,000 feet above the level of the sea.

Table-Lands of Australia.—Two extensive plateaus, one on the south and the other on the north coast, spread out to unknown distances toward the interior of the continent.

LOWLAND PLAINS.

Lowland Plains.—Lowland Plains are tracts of land only slightly elevated above the level of the ocean; in some places, however, they are considerably below it. Such is the case in the regions around the Caspian Sea* and the Sea of Aral; and also in the valley of the Jordan River.

Plains do not always present a perfectly horizontal surface; hence we have undulating as well as level plains.

Plains of North America.—Between the Rocky Mountains and the Alleghanies are extensive plains, stretching from the Gulf of Mexico to the Great Lakes that lie between the United States and British America, and also from the north of these lakes to the Arctic Ocean. The surface of these lowlands is estimated at 2,430,000 square miles.

No prominent elevation occurs in this vast tract, and yet it is the site of two of the greatest river systems of the earth—that of the Mississippi with its affluents, and that of the St. Lawrence with its vast lake appendages. A plateau of moderate elevation, lying to the west and north of Lake Superior, serves as the water-shed for these two immense river courses.

* It has been ascertained that the area occupied by the Caspian and the Aral Sea, together with a large extent of surrounding country, is about 83 feet below the general sea level; and that the Dead Sea, including the adjacent country, is depressed 1,317 feet.

The middle portions of this plain, embraced in the valleys of the Mississippi and the Missouri, are chiefly level grassy regions, called *prairies*. Of these there are three kinds—the *bushy* or *heathy*, which are covered with grass, vines, shrubs, and flowers; the *dry* or *rolling*, from whose wavy surface, and want of pools and swamps, they have derived their name; and the *moist*, or *wet prairies* which abound in pools and marshes. They are covered with a luxuriant vegetation of tall rank grass.

Along the Atlantic coast, between the Alleghanies and the Atlantic Ocean, stretches a plain, varying in width as the mountains recede from the coast.

Plains of South America.—The whole of the interior of South America, from the coast chain of Venezuela to the Strait of Magellan, is one immense plain, whose mean height is but little above the level of the sea.

This vast tract is divided by low ridges into three great river basins—that of the Orinoco on the north, the La Plata on the south, and the Amazon in the centre. The flat portions on each side of these streams are called Llanos, Selvas, and Pampas.

Between the Andes and the Orinoco, the *Llanos*, or level fields, occupy a space of at least 250,000 square miles. So nearly level are these plains, that, in the rainy season, the Rio Negro pours its waters into the Orinoco and the Amazon at the same time, by the Cassiquiare River. The mean height of these plains is not over 200 feet.

The *Selvas*, or forest plains, of the Amazon, stretch from the Andes to the Atlantic Ocean. This vast region is densely covered with immense forests, here and there interspersed with open patches of grass and marsh lands.

The *Pampas*, or flats, are immense level plains, extending in an almost uninterrupted band from about the 15th to the 45th parallel of south latitude.

These plains are generally rich in grass, but without trees. In some parts there are swampy tracts, overgrown with canes and tall reeds; in others, the whole surface is covered with thistles during the greater part of the year. These grow to the height of eight feet, and their stems are so close to each other and so strong that they form an impenetrable barrier. During the summer they lose their sap and verdure, and the *pampero*, or hurricane, levels them with the ground; after which the clover springs up, and for a short season the whole scene is changed.

In some parts of these pampas there are large spaces of absolutely sterile soil; but these are surrounded with districts sufficiently luxuriant to pasture immense numbers of cattle.

CHAPTER V.

PLAINS CONTINUED—DESERTS—VALLEYS AND MOUNTAIN PASSES.

Plains of Europe.—The great European plain extends from the English Channel, comprehending the lowlands of Northern France, Belgium, Holland, Northern Germany, Denmark, Prussia, Russian Poland, and the whole of Russia Proper, to the base of the Uralian Mountains.

Between the Gironde River and the Pyrenees, in France, is an extensive sandy plain, occupied by heaths and marshes.

Among the other plains of Continental Europe may be mentioned those of Naples, Hungary, and Lombardy; the latter are considered the most productive in the world.

Plains of Asia.—The whole of Siberia, from the Altai Mountains to the Arctic Ocean, is an immense plain, which gradually sinks into marshes and sloughs, called *Tundra*, as it approaches the ocean.

Immense plains occur in the north-west of China; in the north of Hindostan (between the plateau of the Deccan and the Himalaya Mountains); in Arabia; in the south-east of Turkey; in Persia; and in Independent Tartary.

Plains of Africa.—Rich plains stretch from the foot of the Atlas Mountains to the Mediterranean Sea. Upper and Lower Guinea constitute an extensive plain of great fertility.

DESERTS.

Deserts are barren tracts of land, nearly destitute of water, with little or no vegetation, beyond a few shrubby plants which are occasionally met with. In some desert regions there are interspersed here and there small fertile tracts, well watered and wooded, which afford shade and refreshment to the exhausted traveler. These tracts are called *waddies*, or *oases*.

Deserts of North America.—In the elevated country, which has already been mentioned as extending along the eastern base of the Rocky Mountain Range, vast tracts of desert land are found. Westward of this range, between it and the Sierra Nevada Mountains, a great portion of the land is desert.

Deserts of South America.—In this country are the Deserts of Campos Parexis and Atacama; the former situated near the sources of the Paraguay, and the latter north of Chili.

Deserts of Asia.—The principal deserts of Asia are, the Desert of Cobi, which occupies a considerable portion of the great central plateau; the Indian Desert of Hindostan; and the deserts of Arabia, Persia, Independent Turkestan, and Afghanistan.

The Great Salt Desert of Persia consists of a stiff clay, covered with a saline efflorescence, and bearing a vegetation of saline plants intermingled with a few pasture lands.

The Desert of Afghanistan is a vast sandy basin, containing large quantities of salt.

Deserts of Africa.—The principal known deserts of Africa are the Great Desert of Sahara, the Lybian Desert, and the Nubian Desert. The Desert of Sahara is regarded as the most extensive, barren, and parched waste upon the globe. Shallow lakes, impregnated with salts of various kinds, are scattered here and there over its surface, and in its western part there are vast beds of rock salt of the greatest purity.

Deserts of Australia.—Most of the interior of this continent is supposed to be a treeless desert of sand, swamps, and jungle.

VALLEYS AND MOUNTAIN PASSES.

Valleys are the spaces which occur between mountain ranges, mountains, or hills.

The broad and deep valleys, situated in mountainous districts, are arranged into two classes, according to their direction in relation to the neighboring elevations.

Those which lie between parallel ridges and follow the general direction of the main chain, are termed *longitudinal valleys;* and those which run at various angles with the principal chain are called *transverse valleys.*

Valleys situated among steep mountains are sometimes difficult of access, ingress and egress being obtained only by narrow entrances; called ravines, gorges, defiles, or passes. These passes, through which communication is maintained between opposite sides of the ridge they intersect, are called *cols* in the Alps, *ports* in the Pyrenees, and *gates*, *gaps*, or *passes* in the United States.

Mountain passes occur at various heights, and they abound with scenes of striking grandeur and wild magnificence,—overhanging rocks, undefended

precipices, patches of wood, cascades of water, rendered the more impressive by the seclusion of their sites.

The highest mountain passes are those of the Himalaya, varying from 5,000 to 19,000 feet above the level of the sea.

The loftiest carriage road known is that over the Ortler Pass, in the Rhetian Alps. There are several other passes in the Alps (varying in height from 3,000 to 7,000 feet), that are traversed by carriage roads, and a few still more elevated that are fit only for foot passengers, and at certain seasons for mules. The height of these is about 11,000 feet above sea-level.

The Andes chain is traversed by several passes; the most of which are narrow, steep, rugged, and dangerous. The pass from Valparaiso to Mendoza is 12,450 feet in height, and that from Lima to Pasco is 15,760 feet, being the highest known pass of the Andes.

CHAPTER VI.

ISLANDS—SHOALS—BANKS—REEFS.

The innumerable islands scattered through the wide expanse of waters that surround the great continental masses of the globe, differ much in size, form, structure, and elevation.

They are also variously distributed, occurring singly, or in chains, groups, or archipelagoes. It is supposed that they are the tops of mountains or table-lands, whose base is in the bed of the ocean, and whose valleys and passes are filled with its waters.

Those that contain a system of mountains, valleys, and streams, may be regarded as miniature continents.

There are two distinct classes of islands, viz., *Continental*, and *Pelagic*, or *Oceanic*.

Continental Islands are those that extend along the margin of the continents, whose proximity, structure, size, etc. furnish presumptive evidence of their being dependencies of the continents.

They are generally long in proportion to their breadth, and follow each other in the direction of their length, forming a line with the maritime mountain chains of their respective continents.

Pelagic Islands are those that appear to have risen from the bed of the ocean, independently of the continents. They are, for the most part, of volcanic origin.

Most of the Pelagic, or Oceanic Islands, as we have before stated, owe their origin to volcanic agency; but there are some that are the result of the labors of minute insects, called coral zoophytes.

These little animals build up masses of coral, forming reefs of hundreds of miles, and circular islands, or atolls. This they do by extracting lime from sea-water, with which they form their coverings or houses, one piled up on another like the branching stems of a tree.

Coral Island, or Atoll, with lagoon in the centre.

As they cannot exist above the surface of the ocean, they leave off building when the reef is of such a height that it remains almost dry at low water.

"The heat of the sun now splits in many places the dry mass of stone; the waves also separate and lift large blocks of coral, throwing them upon the reef. In this way the mass is augmented until it surmounts the highest tides. It then entangles floating trees and sea-weeds, brought by currents from distant countries, and in time a soil is formed, in which seeds, floated to it on the waves, take root, and grow into trees and plants, and sea-birds shelter among them; and last of all they are taken possession of by man."

Shoals, Banks, Reefs.—"Sometimes the elevations on the bed of the ocean are not high enough to reach the surface, or to be covered by every tide, in which case they seem like imperfect islands. If they are flat and broad, they are called *shoals* or banks; if they form a range of rocks, they are called a *reef*."

CHAPTER VII.

THE WATERS OF THE GLOBE.

Water, essential to the existence of man and the fertility of the soil, occurs in each of the physical conditions which bodies are capable of assuming, viz., the *aëriform*, the *solid*, and the *liquid* state.

It exists in the aëriform state in the form of vapor; in the solid state, in the form of ice; and in the liquid state, in the form of rain which gives rise to springs, lakes, rivers, etc.

Composition and Properties of Water.—Pure water* contains by weight, 88.9 parts of oxygen combined with 11.16 parts of hydrogen gas; and by volume, two portions of hydrogen to one of oxygen.

It is 815 times heavier than air, weighing 1,000 ounces per cubic foot, and, like most other substances, it expands by heat and contracts by cold.

* Water is seldom found *perfectly* pure. It generally holds in solution various ingredients, derived either from the atmosphere or the earth.

It boils at 212° Fahrenheit, under the ordinary pressure of the atmosphere, at sea level; but the boiling point becomes lower, as the atmospheric pressure is lessened; that is, it will boil at one degree less than 212° for every 500 feet of ascent. Some allowance must be made, however, for the temperature of the atmosphere.

How Divided.—The waters of the globe may be divided, as respects position, into two general classes, viz.; the *land-enclosed*, or *continental* waters, and the *land-enclosing*, or *oceanic* waters. They may also be divided, as respects properties, into three classes, viz., *salt*, *mineral*, and *fresh*.

By far the greater part of the continental waters are fresh, while those of the ocean are salt. There are, however, many continental specimens of salt springs and lakes, but, as has been intimated, they form an inconsiderable portion when compared with the entire mass.

SPRINGS.

Springs.—Springs are formed from melted snow, dew, vapor, and rain; which, falling on high elevations of land, sink into the soil. The cavities beneath the surface form reservoirs, from which, at a lower level, the superabundant water finds its way again to the surface.

Those springs which continue to flow constantly at all seasons, are called *perennial;* and those that alternately flow and stop, are called *intermitting.*

Section of an Intermitting Spring.

Explanation of the Cut.—The rain, by percolating the rock, fills the cavity A until it reaches the top of the bend B; the spring will then flow until the water is exhausted. The same phenomena will be from time to time repeated.

Springs may be divided into four classes, viz., *thermal* or *hot*, *ebullient* or *spouting*, *inflammable*, and *mineralized*.

Thermal, or Hot Springs.—These springs are characterized by a higher temperature than that of the place where they are situated. Some of them reach the temperature of boiling water.

Ebullient Springs.—These springs burst forth with great violence, and sometimes throw up a column of water to a considerable height.

Of this class are the *geysers* of Iceland. These may be called intermitting hot springs, for they alternately flow and stop, and they vary in temperature from that of the air to that of boiling water.

Section of a Geyser.

Explanation of the Cut.—The water, percolating the rock, fills the cavity A. Here it becomes greatly heated by volcanic action, and steam is formed, which, by its elastic force, drives the water up the channel B, whence it issues in a fountain.

Inflammable Springs.—These springs are capable of supporting flame. They are not numerous.

Mineralized Springs.—Mineral springs contain a sensible portion of gaseous or mineral particles. They may be divided, as respects properties, into four classes: 1st, those containing oxide of iron, called chalybeate springs; 2d, those which contain a portion of chloride of sodium, or common salt, called salt or saline springs; 3d, those which are combined with carbonic acid gas, called acidulous springs; and 4th, those that are impregnated with sulphuretted hydrogen, called sulphurous, or hepatic springs.

LAKES.

Lakes.—Large or small, fresh or saline, collections of water which are either almost or quite surrounded by land, are termed lakes.

"There is a striking, though in one respect insensible, relation subsisting between rivers and considerable lakes. The former visibly feed the latter; and the latter no less certainly feed the former, though in a manner that is not so apparent to our senses. By a process of evaporation, the lakes are continually giving off a portion of their mass, which rises in the atmosphere in the form of vapor, and again visits the earth in the form of rain, originating the springs and rills, which unite in rivers, flow into the lakes, and replace their waste. There is no machinery of nature more complicated, beautiful, nicely adjusted, and benign in its results than this; for hereby the earth is preserved either from perpetual barrenness, through want of moisture; or from submergence, through the ocean overflowing its present bounds."

Lakes may be divided, according to their physical characteristics, into four classes:—1st, those small lakes which receive no stream

of running water, and which have no outlet; 2d, those which receive no streams of water, but have an outlet; 3d, those which receive streams of water, but have no visible outlet; and 4th, those which both receive and discharge streams of water.

CHAPTER VIII.

THE WATERS OF THE GLOBE—CONTINUED.

Rivers.—Rivers are streams of water flowing in an open channel through the land.

Those which empty directly into the ocean, or into waters communicating with it, are styled *oceanic rivers;* and those which never reach the ocean, but fall into lakes unconnected with it, or are absorbed and lost in swamps or sandy deserts, are styled *continental rivers.* To designate the latter, we prefer the term *inland.*

The oceanic rivers are divided into four distinct systems,* belonging respectively to the Arctic, the Atlantic, the Pacific, and the Indian Ocean.

Sources.—The little rivulets that trickle down the sides of mountains generally unite and form streams; or, if the ground be level, they collect into a lake, from which the stream flows.

Most of the large rivers originate in chains of mountains, because springs are there most abundant; but in some instances they have their source in small elevations in the plains.

Descent and Rapidity of Rivers.—Water, like every other fluid, has a tendency, when left free, to seek the lowest possible level; hence the course of a river points out generally the direction in which the land declines. The degree of the declination determines in part the velocity of its current, for the rapidity of a stream is influenced both by its volume of water and the declivity of its channel. A declination of one foot in 200 feet prevents a river from being navigable.

In general, the rapidity of rivers which have a serpentine course is less than that of those which have a straight channel.

When the fall of a river is sudden, and its velocity extremely great, it forms what is called a *rapid;* and when it rushes over a perpendicular rock, it is called a *cataract,* or *water-fall.* When a rivulet or small stream dashes over a rock, it is called a *cascade.*

Subterraneous Course of Rivers.—It sometimes happens that rivers,

* See Map of the World in the accompanying Atlas.

in a part of their course, lose themselves for a while, and after a subterraneous course, more or less long, rise again to the surface.

River Fords.—Fords are places in a river where it may be crossed by man or beast on foot, or by wading. Some streams are never fordable—others, always so; in some, the fords are temporary as to season, though permanent as to place; and in others, they frequently change their situation.

To ford, on foot, the depth of water should not exceed three feet; on horseback, four feet; but should the current be very strong, one foot less for each.

River Basins.—The entire extent of country drained by a river and its tributaries, is called its *hydrographical region*, or *basin*. The most extensive basins and the largest rivers are found on the Western Continent. There are instances where two hydrographical basins are permanently connected by a sort of natural canal. This is the case with the Amazon and the Orinoco, whose waters are united by the Cassiquiare River.

Water-Shed.—The margin of land which separates one river-basin from another is called a *water-shed;* this, in some cases, is a mere ridge-line like the top of a house-roof, from which the waters diverge and flow in different directions.

Mouths of Rivers—Deltas.—Rivers terminate usually by a single mouth; but in some instances they discharge themselves by several mouths.

Those rivers which flow through alluvial soil, generally carry down with them large quantities of solid matter, held in suspension, which, as their velocity decreases when they approach the sea, is deposited, forming triangular banks, called *deltas*.

Deltas are *fluviatile*, when formed at the entrance of one river into another; *lacustrine*, when at the entrance of a river into a lake; and *maritime*, when the river falls into the sea.

Tidal Rivers.—Tidal rivers are those which fall into tidal seas, and have the level of the lower part of their course changed daily by the tidal wave. In some rivers the force of the sea operates against the current, and produces a high wave, which rolls swiftly up the stream, overturning boats, inundating the banks, etc.

This phenomenon is called the *bore*. It comes rolling in with the first flood, and rising to a height of from five to fifteen feet above the level of the river, rushes onward, threatening destruction to whatever may oppose its course.

The highest tides occur at new and full moon. The ebb and flow of the tides in the Amazon are observable 600 miles above its mouth. No sailing craft can descend this river while the tide is running up; hence distances on the river are measured by tides. For instance, Para is said to be three tides from the ocean, and a vessel leaving with the ebb must lie at anchor during two flood-tides before she can reach the Atlantic. There are in the river certain places where the water is not much agitated by the tides; they are called *esperas*, or resting places; in these the small craft of the river lie to until the tide changes.

The Magnitude of Rivers.—The magnitude of rivers depends on the length of their courses, the area of their basins, their connection with lofty ice-clad mountains, and the humidity of the climate. These physical circumstances lead to the accumulation of vast bodies of water, whose magnitude is proportionate to the degree in which they are combined.

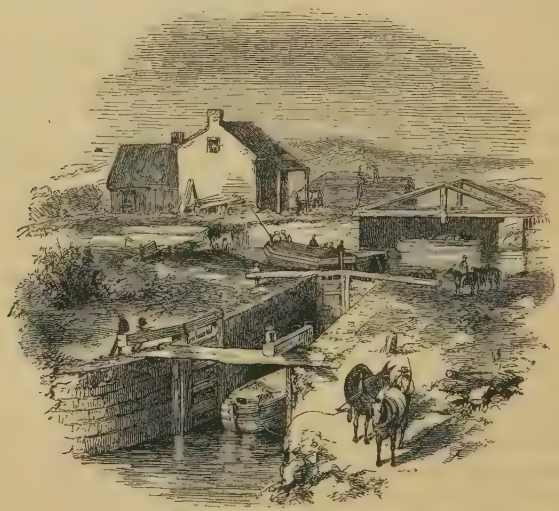
The following table exhibits the extent of the hydrographical regions of the principal rivers of the globe, with their proportionate volumes:—

RIVERS.	Area of Basin in English miles.	Proportional quantity of water discharged annually.
EUROPE:		
Thames	5,500	1
Rhine	70,000	13
Loire	48,000	10
Elbe	50,000	8
Vistula	76,000	12
Danube	310,000	65
Dnieper	200,000	36
Don	205,000	38
Volga	520,000	80
ASIA:		
Euphrates	230,000	60
Indus	400,000	133
Ganges	420,000	148
Yang-tse-Kiang	760,000	258
Amour	900,000	166
Lena	960,000	125
Obe	1,300,000	179
AFRICA:		
Nile	500,000	250
AMERICA:		
St. Lawrence	600,000	112
Mississippi	1,368,000	338
Rio de la Plata	1,240,000	490
Amazon (not including the Araguay)	2,177,000	1,280

CANALS.*

Canals are long trenches or artificial passages of water, constructed generally for inland navigation. They may be divided, according to their particular object, into three classes; 1st, canals for navigation; 2d, canals for drainage; and 3d, canals for irrigation.

A canal lock is a tight reservoir, or basin of water, which is closed at both ends by flood-gates. Locks are constructed so as to enable boats to ascend and descend declivities gently. A view of one is afforded you in the following cut.



A Canal Lock.

CHAPTER IX.

THE WATERS OF THE GLOBE—CONTINUED.

THE OCEAN.

The Ocean.—By the ocean, in an extended sense, is meant the entire body of water which, with its numerous branches, termed seas, gulfs, bays, straits, sounds, and channels, surrounds the globe, completely

* Canals, being *artificial* collections of water, do not strictly form a part of the natural hydrography of a country, yet as they, for the most part, perform the office of rivers, they may with propriety be mentioned here.

enclosing the land area of its surface. It is divided into five basins, each being styled an ocean. Of the two principal, the Atlantic and the Pacific, the coast line of the former is the more extensive, though its superficial area is far less than that of the latter. The coast line of the Atlantic is estimated at 48,000 miles, and that of the Pacific at 41,500 miles.

The greater geographical extent of the outline of the Atlantic is due to its numerous projections into the land, forming many mediterranean, or close seas, of immense size.

Characteristics.—The chief characteristics of the ocean are, *color*, *saltness*, *temperature*, *depth*, *density*, *level*, and *movements*.

Color.—The color of the ocean is generally a deep bluish green, becoming brighter and clearer toward the coasts. This bluish tint is caused by the water absorbing all the prismatic colors, except blue, which, being reflected in every direction, imparts to it a hue similar to the azure of the sky.

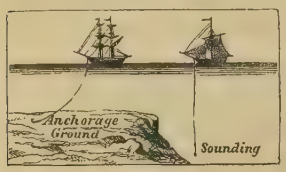
Some particular parts of the oceanic waters, however, have different colors, depending entirely on local causes; for example, the eastern part of the Mediterranean Sea has a purple tint; the water in the Gulf of Guinea is white; west of the Azores and the Canaries it is green; at the mouth of the La Plata, reddish; off the coast of California, vermilion; between Japan and China, yellowish; around the Maldive Islands, black; and in the Red Sea, red, whence the name of the sea.

It is supposed that the color of this sea is owing to a species of *oscillaria*, a plant, intermediate between the animal and vegetable kingdoms. Marine vegetation at or near the surface, animalcules of the infusorial kind, and minute particles of matter, are the chief causes of the various tints above mentioned.

Saltness.—All the water of the ocean is salt, but in slightly different degrees in different places. Near the mouths of great rivers, or in the polar regions, where vast masses of snow and ice are melted and mingle with the ocean, the saltness is less than at a great distance from land. Besides common salt, it contains several other substances, such as muriatic and sulphuric acid, soda, magnesia, and sulphate of lime. These ingredients give to sea-water a salt and bitter taste.

Temperature.—The mean temperature of the surface of the ocean, over 10° of latitude on each side of the equator, is about 80° Fahrenheit; at the tropics, it is about 75°; at latitude 60°, it is about 50°; and in the Arctic and the Antarctic Ocean, it falls to the freezing point, and below it.

Depth.—No certain conclusions have been formed with respect to the depth of the ocean. It is generally supposed that its greatest depths are about equal to the height of the loftiest elevations on the earth's surface. In the neighborhood of steep coasts, the bottom of the sea or ocean sinks down suddenly to a great depth, but near a low coast it deepens very gradually.



Sounding.

The deepest soundings have been made in the Atlantic Ocean. In April, 1852, latitude 36° south, longitude 44° 11′ west, Lieutenant Parker, of the U. S. frigate Congress, made an experiment at deep-sea soundings, when 49,800 feet of line ran out before it parted; but this and similar experiments that have been made should not be depended upon as conveying an *accurate* idea of the depth of the ocean, as the line may have run out many hundred feet after the plummet reached the bottom. An instrument has *recently* been invented, which enables the officers who now attempt deep sea-soundings, to detach the plummet from the line the moment it strikes the bottom.

Density.—The density of the ocean increases from the surface downwards. At the depth of a mile and a quarter it has been calculated to amount to 2,809 pounds on a square inch. At still greater depths the pressure must be enormous.

Level.—The ocean is presumed to have everywhere a uniform surface, which is called *the level of the sea.* Some of its branches form an exception to this rule, their level, in some instances, being a little above that of the ocean, owing to prevailing winds, peculiarity of position, etc.

Movements.—There are three distinct movements of the ocean, viz., *waves*, *tides*, or tidal waves, and *currents.* The action of the winds upon the surface of the ocean produces waves varying in height from a mere ripple to billows of enormous size. The height of waves produced by storms generally averages from 10 to 20 feet.

We sometimes read of "billows mountain high;" but the highest waves do not exceed 40 feet from the hollow trough to the summit.

Tides.—Tides are those elevations and depressions of the ocean which occur at regular intervals. They are caused chiefly by the attraction of the sun and moon.

The waters of the ocean gradually rise or flow, as it is called, about six hours; after remaining stationary about six minutes, they

then retire, or ebb, during another six hours, to flow again after a brief repose.

The waters are most elevated in that place near whose meridian the moon is passing. The period that elapses between successive returns of the moon to the meridian of a place is 24 hours 50¼ minutes; during this time the waters of the ocean ebb and flow twice.

At new and full moon the attraction of the sun and that of the moon act in the same direction; hence the highest tides, termed *spring tides*, occur at these periods. When the moon is in quadrature, or 90° from the sun, the sun's attraction acts at right angles to that of the moon, and then we have the lowest tides, called *neap tides*.

The tides not only vary periodically with the position of the moon, as described, but they vary greatly in different places from other causes,—such as depth of sea, high winds, interference of land, the meeting of two tides, etc.

In the open ocean, the tide seldom rises more than a few feet, probably never exceeding five. At St. Helena, the greatest rise is only three feet; at Tahiti it is scarcely perceptible: while at St. Malo, on the north coast of France, the rise is 50 feet; at Bristol, in England, it is 40 feet; and in the Bay of Fundy it rises sometimes to the height of 70 feet.

In inland seas, with a small mouth opening in such a direction as not to meet the tidal wave, little or no rise takes place. This is the case in the Mediterranean and the Baltic. In the Red Sea and the Persian Gulf, though their mouths are narrow, there is a rise, because they open toward the course of the tidal wave.

CHAPTER X.

THE WATERS OF THE GLOBE—CONTINUED.

Ocean Currents.—The currents of the ocean, which exercise so great an influence on the intercourse of nations, on the present aspects of the land, and on the climatic relations of coasts, present this remarkable spectacle:—they cross it, of different breadths, in different directions, and in the same manner as rivers; the unmoved neighboring watery strata forming, as it were, the banks of these streams.

Causes of the Ocean Currents.—There are three prominent causes that produce these currents, viz.: the unequal heating of the surface of the ocean, the earth's daily motion, and the obstruction of continents.

Cold water being heavier than heated water, there is a continual pressure and flow of cold water from the poles to the equator, which displaces the

lighter water there, and causes a warm current to flow from the equator toward the poles. This current would flow due north and south from the equator, if it were not turned from its course by the earth's daily motion and by the obstructions of the continents.

THE ANTARCTIC DRIFT CURRENT flows from the south pole in a north-easterly direction, till it reaches the western shore of South America. Before reaching this shore, however, a small branch sets off to the south-east, and doubles Cape Horn; but the main stream pursues its course along the South American shore, until it arrives off the Peruvian coast; then, turning suddenly to the west, it loses itself in the EQUATORIAL CURRENT OF THE PACIFIC.

This great current crosses the Pacific between the parallels of 26° S. and 24° N., forming a vast moving belt of water nearly 3,500 miles broad. It forces its way between the islands of the Asiatic Archipelago, and joins the EQUATORIAL CURRENT OF THE INDIAN OCEAN.

This current flows on until it reaches the coast of Africa. As it approaches the Island of Madagascar, the stream is divided; one part bends round the island and flows through the Mozambique Channel, and, being joined by the other branch, doubles the Cape of Good Hope. From this point, under the name of THE SOUTH ATLANTIC CURRENT, it runs along the western coast of Africa till it joins THE ATLANTIC EQUATORIAL CURRENT.

This great current flows from the Gulf of Guinea westward, till it reaches the opposite shore of America; where, off Cape St. Roque, it separates into two branches. One of these, THE BRAZIL CURRENT, proceeds southward along the coast of Brazil, and, before reaching the mouth of the La Plata, it turns toward the east. Under the name of THE SOUTH CONNECTING CURRENT it then makes the circuit of the South Atlantic Ocean; and keeping outside of THE CAPE CURRENT, off the south coast of Africa—which runs, as we have before described, in the opposite direction,—it pursues its course into the Indian Ocean.

We must now return to Cape St. Roque, and follow the other and main branch of the Atlantic Equatorial Current. It proceeds from the Cape, along the coasts of Brazil and Guiana, through the Caribbean Sea; from which it flows through the Channel of Yucatan, and enters the Gulf of Mexico. The stream now winds round the Gulf, and rushes out through the Strait of Florida under the name of the GULF STREAM.

This stream spreads out to a great breadth, and sweeps along the

shores of North America to the Island of Newfoundland. At this point it meets with a northerly current coming from Baffin's Bay, and both bend southward; passing the Azores and Canary Islands, and so returning by the west coast of Africa, it rejoins the Equatorial Current, thus making a complete circuit.

An important branch leaves the current near Newfoundland, setting toward the British Isles and North-western Continental Europe. This current carries plants, seeds, etc., belonging to tropical America, and deposits them on the shores of Ireland, Scotland, and Norway.

The color of the water of the GULF STREAM is a dark indigo blue, while the surrounding water is of a greenish hue. Its maximum temperature is 86°.

Though the warmth of this stream diminishes as it flows north, Lieut. Maury remarks that "the quantity of heat which it spreads over the Atlantic in a winter's day would be sufficient to raise the whole atmosphere that covers France and Great Britain from the freezing point to summer heat; and that it really is the cause of the mildness and of the damp of Ireland and the South of England."

We also learn, from the same source, that "the Gulf Stream, as far as the banks of Newfoundland, flows through a *bed* of cold water, which cold water performs to the warm the office of *banks* to a river."

THE ARCTIC, OR NORTH POLAR CURRENT, comes from the Arctic Ocean; crosses the upper part of the Atlantic; and flows between Iceland and Greenland, south of which it unites with the current from Davis' Strait, and proceeds southward till it joins the Gulf Stream off Newfoundland. A branch of the POLAR CURRENT runs inside of the Gulf Stream, along the coast of North America, to Florida, sending an under-current into the Caribbean Sea.

SEAS.

Seas.—With the ocean various seas communicate, either by narrow straits, as do the Baltic and the Mediterranean; or by wide openings, like those of the Yellow Sea and the Arabian. Seas of the former class are called *inland*, and those of the latter may be styled *open*.

Besides these two classes of *oceanic seas*, there are other bodies of water, not connected with the ocean, such as the Caspian and the Aral, which, though denominated seas, are so much like lakes that it is not an easy matter to define the difference between them.

If size be considered to form the distinction, then the great lakes of North America should rank as seas; if saltness, then Great Salt

Lake in Utah, Lake Van in Asiatic Turkey, and Lake Urumiah in Persia, together with many others of smaller size, are entitled to this distinction.

CHAPTER XI.

METEOROLOGICAL PHENOMENA.

The Atmosphere.—The earth is surrounded by an invisible and highly elastic fluid, termed its atmosphere.

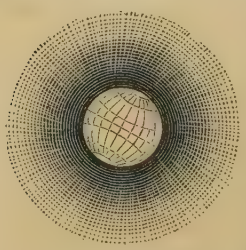
Composition.—Atmospheric air is composed principally of a mixture of oxygen and nitrogen gas. It contains also a small but variable proportion of aqueous vapor, and a still smaller proportion of carbonic acid gas. Professor Brande, of London, estimates the ordinary composition of the air as follows, viz. :—

	By Weight.	By Measure.
Nitrogen,	75.55	77.50
Oxygen,	23.32	21.00
Aqueous Vapor,	1.03	1.42
Carbonic Acid Gas,	0.10	0.08

Color.—The color of the air or atmosphere is light blue. What is termed "the blue sky" is, in reality, the blue air. It is owing to the color of the intervening air that distant land has a bluish appearance.

Height.—The height of the atmosphere above the surface of the earth does not probably exceed fifty miles.

Weight.—The weight of the atmosphere is not uniform throughout its whole extent, a gradual diminution taking place as we ascend above the level of the sea. Air being an extremely elastic and compressible body, the lower portions of the atmosphere, receiving the pressure of those above, are denser and heavier than the upper.



The last or highest stratum of air has no incumbent pressure, and would, from its elastic nature, fly off into space, were it not restrained by the force of attraction, which draws it toward the earth.

A perpendicular column of the whole atmosphere presses upon the earth's surface with a weight of about 15 pounds on every square inch. This is balanced or weighed by a column of quicksilver 30

inches in height. If the pressure of the air be diminished, the column of quicksilver necessary to balance it is less than 30 inches. It is on this principle that the barometer (an instrument for measuring the weight of air) is constructed.

Humboldt found that at the level of the sea, near the foot of Chimborazo, the mercury in the barometer stood at exactly 30 inches; whilst, at the elevation of 19,332 feet, to which he ascended on that mountain, it was very little higher than 14 inches. At all other places, having the same elevation above sea level (some allowance being made for variation of temperature) the indication of the barometer would be similar; hence, by the use of this instrument, we are enabled to obtain a tolerably correct idea of the height of all places which are accessible to man.

It is estimated that the mercury in the barometer falls about one inch for every 950 feet of elevation above the level of the sea.

There is still another mode of measuring heights, dependent also on the density or pressure of the atmosphere; which is, by ascertaining the *boiling point* of *water*. At places situated at or near the level of the sea, water boils, as we have before stated, at the temperature of 212° Fahrenheit. At considerable elevations above sea-level, it does not require so high a degree of temperature to make water boil. At the Hospice of St. Bernard, the highest habitation on the Alps, which is about 8,000 feet above sea-level, water boils at 203°.

Temperature.—It is a well-known property of the atmosphere that the temperature diminishes with its height. The higher, therefore, a body ascends in the atmosphere, the greater the quantity of heat abstracted from it; hence the perpetual snow that crowns elevated summits.

The air on the top of lofty mountains is so rare as to diminish the intensity of sound, affect respiration, and cause a general prostration of physical strength. When Humboldt attempted to ascend Mount Chimborazo, he found, on nearly attaining its summit, that drops of blood issued from his eye-lids, ears, and lips.

The mercury in the thermometer usually falls one degree, for every 300 feet of ascent.

Use of the Atmosphere.—The atmosphere is essential to animal and vegetable life: it furnishes oxygen for respiration, and supplies vegetables with a great portion of their carbon. It is also the great vehicle of sound and smell, and its reflective power diffuses the light and heat of the sun, or any other luminous body, in all directions.

CHAPTER XII.

METEOROLOGICAL PHENOMENA.—CONTINUED.

Winds.—Cause of Winds.—Wind is air in motion. The atmosphere is heated mainly by its lower portion's coming in contact with the heated surface of the earth; as it acquires heat, it becomes lighter and more elastic, and mounts upward, and its place is supplied by a rush of colder and heavier air. This is the primary cause of all movements in the atmosphere, which, otherwise, would remain uniformly unagitated.

Velocity of Winds.—Winds display an almost endless variety in their velocity and force; from the zephyr, which scarcely stirs the leaves of the forest, to the gale, which bends its mightiest branches, and the hurricane, which tears up its trees by the roots and destroys the habitations of man. The following table contains some results obtained by Smeaton, the celebrated engineer, respecting the force and velocity of certain kinds of winds :—

Character.	Perpendicular force on one square foot, in pounds and decimal parts of a pound avoirdupois.	Velocity in miles per hour.
A Gentle Pleasant Wind,	.123	4 to 5
A Brisk Wind,	.492	10 to 15
A High Wind,	4.429	30 to 35
A Violent Storm,	17.715	60
A Hurricane,	31.490	80
A Violent Hurricane,	49.200	100

Direction of Winds.—The direction of winds is designated by the point of the compass from which they come; that of marine currents, by the point to which they tend. An easterly wind comes from the east; whereas an easterly current comes from the west.

Use of Winds.—Winds have a purifying effect on the atmosphere: they dissipate miasma exhaled from infected districts or from stagnant water; they waft our ships; they transport the vapors from the sea, to moisten and fertilize the land; and they carry the seeds of plants far and wide, and thus extend the empire of vegetation.

Classes of Winds.—Winds may be divided into three classes, Constant, Periodical, and Variable.

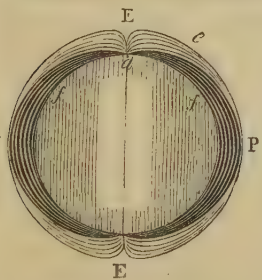
Constant, or * Trade Winds.—These winds prevail generally in the

* The term *trade* was used in former times as synonymous with *track*; hence, the winds which blow constantly in one direction are called *trade winds*, because they follow a certain track.

Atlantic and the Pacific, between the equator and the 28th degree of north and south latitude. Their limits vary, moving two or three degrees further north or south according to the position of the sun.

Explanation of Trade Winds.—The heat between the tropics being greater than on the other parts of the earth's surface, and the incumbent air becoming warmer and consequently less dense, it accordingly rises from the surface, and the vacant place is immediately occupied by colder and, therefore, heavier air, which glides in on both sides from the regions beyond the tropics.

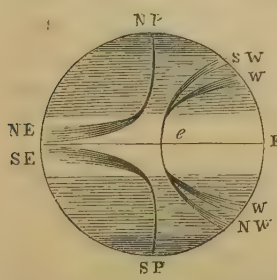
Thus the central circle in the accompanying diagram represents the earth, PP the poles, EE the equator, EeP is the current of heated air rising from the equator and passing to the pole, Pfa is the polar current pressing to the equator.



Were the earth motionless, these currents would blow due north and south; but, in consequence of the earth's daily rotation from west to east, the currents have a direction north-east in the northern hemisphere, and south-east in the southern.

The earth at the equator moves daily at the rate of 1000 miles an hour from west to east, but this motion diminishes in advancing to each pole: at lat. 60° it is 500 miles, and at last, at the pole itself, it ceases entirely. The current of wind, then, coming from the poles, has less velocity than the surface over which it travels, so that the earth moves eastward much faster than the air, and it is thus left behind; in other words, it becomes, instead of a due north current, a north-east.

In this diagram, Ee is the equator, NP the north pole, SP the south pole. The current of wind coming from the N is seen to diverge to NE as it enters the line of the torrid zone; while the S current turns to SE in the same manner. The upper current starting at e with an equatorial velocity of 1000 miles an hour, as it advances northward, outstrips the velocity of the temperate zone, and becomes a south-west and west wind. In the southern hemisphere, it becomes a northwest and west wind.



This accounts for the prevalence of south-west and west winds in the north temperate zone, and north-west and west winds in the south temperate zone. If the northern and southern hemispheres were equally

heated, the equator would be the common limit of the two trade winds; but, owing to the greater quantity of land in the northern hemisphere, it is warmer than the southern; and, hence, the limit between the two winds is about three degrees to the north of the equator.

It must not, however, be imagined that the two winds *actually meet;* for, on approaching the equator, they become gradually heated and acquire an ascending direction, so that their horizontal motion is no longer felt. This produces a zone (extending from about three degrees to ten degrees north latitude) which is comparatively calm and free from any steady wind. It is called *the zone, or belt, of variable winds and calms.*

Periodical Winds.—Monsoons are regular periodical winds which sweep over the Indian Ocean and the whole of Hindostan, changing their course according to the position of the sun. When the sun is in the northern hemisphere, the south-west monsoon blows over the Indian Ocean; and when the sun is in the southern hemisphere, the north-west monsoon prevails.

From 3° south of the equator, as far north as the tropic of cancer, and from the east coast of Africa to about 145° east longitude, the south-west monsoon prevails from April to October; and then the north-east monsoon sets in, which prevails from October to April.

The former, in passing over the ocean, is charged with moisture, and, depositing copious supplies of rain, renders the vegetation of India extremely beautiful and luxuriant at that season of the year; the latter comes from the land, and is dry.

The breaking up of the monsoons, as their change is called, is accompanied with a violent commotion of the elements; and the storms and hurricanes which then prevail are exceedingly disastrous in their consequences.

Causes of Monsoons.—The monsoons are regarded as modifications of the trade-winds, occasioned by the interposition of the Asiatic continent on the north, the partial openings among the islands that separate the Indian Ocean from the Pacific on the east, the rarefied atmosphere of Africa on the west, and the position of the sun in the different seasons.

Land and Sea Breezes.—On the coasts of all warm countries these breezes occur. The wind blows from sea-ward from about 9 A. M. till noon, and, in some instances, till evening—this is called the sea breeze; it then changes and blows from the land toward the sea—this is called the land breeze. These breezes are caused by the unequal heating of the land and the sea.

Variable Winds.—Variable winds, as their name indicates, are altogether irregular as to time, direction, and force.

It is difficult to account for these winds, because we are not sufficiently acquainted with the position and relative influence of the various circumstances, which, acting together or in opposition to each other, produce these partial and ever fluctuating aërial currents.

Some variable winds possess particular qualities: such as the hot winds that blow from the deserts of Arabia and Africa. These are termed the *simoon* and *samiel*, in Arabia; the *chamsin*, in Syria and Egypt; the *harmattan*, in Western Africa; the *sirocco*, in Italy and Sicily; and the *solano*, in Spain.

These winds owe their origin doubtless to the heated surfaces of the great deserts of Arabia and Africa. The last two acquire some moisture in crossing the Mediterranean and, consequently, have not that excessive aridity which characterizes the *simoon* and *harmattan*.

Hurricanes.—Hurricanes are violent revolving storms which occur in the West Indies and in the Indian Ocean. They are supposed to be great masses of air, from a few miles to 500 miles in diameter, revolving round a central point where it is quite calm. They occur in their greatest violence in the Indian Ocean.

In the Chinese Sea they are called *typhoons* or *tornadoes;* in other places they have been styled *whirlwinds*, *waterspouts*, *landspouts*, *sand-pillars*, *white-squall*, *pamperos*, etc.

CHAPTER XIII.

METEOROLOGICAL PHENOMENA—CONTINUED.

Aqueous Vapors.—In the atmosphere vast masses of aqueous vapors are suspended, which are supplied chiefly by evaporation from the surface of the ocean and the other waters of the globe.

Warm air is capable of taking up and holding in suspension more water than cold air. Thus a cubic foot of air, at the temperature of 32°, has not capacity for holding more than about two and one-third grains; whilst, at the temperature of 60°, it will hold about five grains and three-quarters; and, at that of 70°, nearly eight grains.

When any portion of air contains all the vapor, or humidity it is capable of receiving, it is said to be *saturated*. Should the temperature of the air be lowered when it is saturated, part of the vapor will be condensed and will become visible, as *clouds;* or hover over the

surface of the earth, as *mists;* or it may descend to the earth in the form of *rain*, *hail*, or *snow*.

Clouds.—Clouds are masses of condensed vapor suspended in the atmosphere. Their average height is calculated to be about two miles and a half

Dew.—When aqueous vapor appears in the form of drops, resting on the surface of plants and other bodies, it is called dew.

Cause of Dew.—Dew is caused by the cooling of the earth by radiation, till its temperature is below that of the incumbent air. When it is deposited upon bodies of *much* lower temperature than the air, it immediately freezes, and forms hoar-frost or white frost.

Mists or Fogs.—These are formed by the condensation of vapor into minute drops of water, near the surface of the earth, and may be considered as dew; which (owing probably to the moist soil's being warmer than the air) remains suspended above the land or water, instead of descending in the form of dew.

Rain.—Rain is water, which, originally taken up into the atmosphere in the form of vapor, is returned to the earth in the form of liquid drops.

How Rain Drops are formed.—At first a dense vapory mist is formed, the minute particles of which join and accumulate into larger masses, and before the moisture reaches the ground, it assumes the form of spheres or rain-drops; obeying the laws to which all matter, and especially fluids, are subject,—the laws of gravity and cohesive attraction. This is exemplified in melted lead, poured from shot towers, and forming drops in its descent.

Quantity of Rain.—The quantity of rain that falls in different parts of the earth is variable; it, however, appears that the mean annual quantity is greatest within the tropics and diminishes toward the poles.

The quantity of rain, however, is by no means *solely* dependent on latitude, but is liable to vary according to the inequalities of the surface; being much affected by elevated land and also by trees, both of which attract moisture; and, consequently, elevated and well-wooded districts are subject to more rain than flat or barren districts. Much also depends on the prevailing winds: if these pass over the ocean, they bring a considerable portion of vapor; and if the shores present an elevated surface or are covered with forests, the vapor becomes condensed and the moisture is deposited in the form of rain.

In such cases the air not unfrequently loses so much of its moisture that there is found to be a considerable difference between the quantity of rain that falls near the coast and in the interior.

Rainy Seasons, etc.—Countries situated within about 10° of the equator have commonly two rainy and two dry seasons during the year; but, beyond that degree, * intertropical regions have only one rainy and one dry season, the rainy season lasting from four to six months. During the latter period the rain does not fall continually. It commences about noon, and generally continues for four or five hours; after which the clouds vanish, and not a drop falls during the night.

There are some portions of the earth, however, within and near the tropics, where rain never falls; and there are other regions where it rains almost incessantly. These we shall treat of under the head of Rainy and Rainless Districts.

RAIN MAP.
Arctic Circle
N. Zone of Variable Rains
Limit of fall of Snow in the Northern Hemisphere
Rainless District
Tropic of Cancer
Zone of Periodical Rains
Zone of Periodical Rains
Tropic of Capricorn
N limit of fall of Snow in the Southern Hemisphere
S. Zone of Variable Rains

Rainy Districts.—There are regions where rain is almost incessant, and where, consequently, vegetation is exceedingly rank and abundant. *The zone of constant precipitation* is shown on the map, by a black tint. This zone corresponds with the zone of variable winds and calms which we mentioned in a preceding chapter.

Rainless Districts.—Without humidity, nothing can live or vegetate; and those countries that are deprived of rain must be supplied with moisture, either by copious dews, by the inundation of rivers, or by artificial irrigation, or else they remain barren and uninhabitable. The rainless districts of the earth are marked on the map.

* Regions situated between the tropics.

SNOW.

Snow.—Snow is vapor congealed and crystallized before its minute globules have had time to join together to form a rain-drop.

The limits of snow at the level of the sea, in the northern and southern hemispheres, are shown in the map (page 367). It will be seen, on examination of the map, that the limit of the fall of snow at the level of the sea, in the northern hemisphere, is about parallel 30° in North America, 40° in the Atlantic Ocean, and 36° in the Eastern Continent. The snowy region, then, in this hemisphere, embraces nearly all the United States, with the countries on the north; all of Europe; and the greater part of Asia.

We find also that the region where snow never falls, at the level of the sea, embraces Central America, the West India Isles, the greater part of South America, Africa, the southern part of Asia, all of Malaysia, and nearly all of the Continent of Australia.

Having obtained a pretty correct idea of those parts of the earth where snow may, and sometimes does, fall, and where it never falls *at* the level of the sea, we must now endeavor to ascertain how the snow is distributed on those parts of the earth's surface that are considerably elevated *above* the level of the sea.

We have already explained, in a preceding chapter, that the air becomes rarefied and the temperature diminishes as we ascend above sea level. At certain elevations, the air is so rare that water no longer continues in its fluid state, but is converted into ice, or if in the form of vapor, into snow. That stratum of air, in which this change takes place, is regarded as a line marked by nature itself, and is called the *snow-line.*

Snow-Line.—The actual elevation of the snow-line, or the lowest point on a mountain at which snow is never *entirely* melted, in the different zones, is shown in the accompanying diagram.

This snow-line varies in different latitudes, and even in the same latitude under different conditions; but, generally speaking, a grad-

ual decrease in the elevation of the snow-line above the level of the sea, takes place as we approach the poles.

By examining the diagram, it will be perceived that the limit of the snow-line, within the tropics, is from 15,000 to about 20,000 feet above sea-level; and that this line, at about latitude 80°, descends to the level of the sea.

It will also be perceived that the snow-line is higher at the distance of 10 to 20 degrees from the equator than at the equator itself.

It must be borne in mind, however, that, at the equator, the sun is never more than 12 hours above the horizon; whereas, near the tropics, the longest days are 13½ hours in length; as the sun at that period is vertical, or nearly so, the *summer* heat, on which the line of perpetual snow depends, is greater than directly under the equator.

GLACIERS.

Glaciers.—Glaciers are immense masses or fields of ice formed on the sides of snow-capped mountains. They are found chiefly in the temperate and frigid zones; and of the greatest extent among the Alps, and the Norwegian mountains, and on the coasts of Greenland and the Polar regions.

"They sometimes descend so far below the snow-line that their termination is surrounded by full-grown trees, cultivated fields, and orchards. The extent of a large glacier depends partly on the size and formation of the valley and partly on the extent of the snow-mountain of which it is a branch. The peasants in Switzerland say a lean snow-mountain cannot produce a fat glacier."

The Alps, between Mont Blanc and the Tyrol, contain about 400 glaciers, some of which are 15 to 20 miles long.

Avalanches.—Avalanches are masses of snow or ice which, breaking off from the snows and glaciers of lofty mountains, glide down into the valleys at their base. They sometimes occasion much damage in the destruction of life and property.

Hail.—Sometimes rain-drops are formed in the upper portions of the atmosphere, and in their descent fall through a stratum of air at the freezing point, when they assume the form of *hail;* if they freeze only partially, they form *sleet.*

A sudden and partial congelation of currents of the atmosphere may happen even in summer, and thus hail-showers occur frequently at this season.

CHAPTER XIV.

METEOROLOGICAL PHENOMENA—CONTINUED.

Climate.—The term climate is used to express the combination of temperature and moisture which prevails in any particular region.

The sun is the great agent in diffusing heat over the surface of the globe. Whenever the sun is above the horizon of any place, that place is receiving heat; when below, parting with it, by the process of radiation.

The division of the earth into five zones, the torrid, the two temperate, and the two frigid, conveys but a general idea of the temperature of these respective portions of the earth's surface, because the power of the sun's rays is greatly modified by other circumstances; hence, we find great varieties of temperature in the same latitude.

The most prominent causes that affect or determine the climate of a place, are as follows:

1st. THE LATITUDE OF THE PLACE.—This has considerable influence in determining its climate; for it may be regarded as a general law that the greatest degree of heat prevails near the equator, and diminishes as the latitude (or distance from the equator) increases.

2d. THE HEIGHT OF THE PLACE ABOVE THE LEVEL OF THE SEA.—This materially affects its climate. We may travel several miles from the equator toward the poles, along the level surface of the earth, before we become sensible of a diminished temperature; but immediately we begin to ascend above the level, a rapid change of temperature takes place.

An elevation of only about 180 feet causes the same variation of temperature as the removal of one degree (69¼ miles) from the equator toward the poles. At the height of about 15,000 feet above the level of the sea, at the equator, we attain the region of perpetual snow, which corresponds to about the 70th parallel of latitude.

3d. THE POSITION AND DIRECTION OF THE MOUNTAIN-CHAINS.—These produce considerable effects on the climate of any region, more especially if they extend from east to west, and thus, according to their relative position with regard to the lowland districts, either screen them from the north or leave them unsheltered in that direction.

Russian Poland, situated to the north of the Carpathian Mountains and having no elevated land to protect it from the piercing blasts which sweep across the plains of Northern Europe, suffers in winter from a climate which is nearly as severe as that of Sweden. Hun-

gary, on the contrary, sheltered by the same range from the cold blasts of the north, enjoys a milder climate than any part of Germany.

The inhospitable climate of Siberia arises from its being unprotected on the north from the cold winds of the Arctic, or Frozen Ocean, while on the south a vast chain of mountains intercepts the warm southerly winds whose access would tend to mitigate the rigor of the atmosphere.

The central and southern parts of European Russia are colder than their latitude would lead us to expect, owing to the absence of any chain of mountains to protect them from the influence of cold northerly winds.

4th. The proximity of a country to, or its remoteness from, the sea.—This is an important element in determining its climate. The waters of the ocean, being of a more uniform temperature than the land, have a tendency to preserve a similar uniformity wherever their influence extends, moderating alike both heat and cold.

A cold wind in passing over the sea becomes warmed, while a hot wind, on the contrary, becomes cooled. Hence, we find that the climate of islands and of countries bordering on the sea, differs from that of countries situated in the interior or remote from the sea; the former being characterized by milder winters and more temperate summers.

5th. The slope of the country, or the aspect it presents to the sun's course.—This has considerable influence upon its climate. The angle at which the sun's rays strike the ground, and, consequently, the power of those rays in heating it, vary with the exposure of the soil relatively to that luminary.

When the sun is elevated on the meridian 45° above the horizon, his rays fall *perpendicularly* on the side of a hill facing the south at an equal angle, while the plain below receives them at an angle of 45°.

6th. The geological character of the soil.—The character of the soil of a country produces marked effects on its climate, which is owing principally to the greater or less power any soil possesses of radiating heat.

Sandy soils become rapidly and intensely heated, and when the sun's rays are withdrawn they readily radiate their heat and thus impart to the atmosphere an increase of temperature.

Clayey soils, on the other hand, become slowly heated, and as slowly part with heat. Marshy ground chills the air, and extensive forest tracts have a similar effect.

7th. The degree of cultivation which the country has re-

CEIVED.—This affects the climate to some extent; for if marshes are drained, or forests cleared, the temperature will be raised. Such has been the case in some parts of our country, where the clearing of the forests and the progress of cultivation have improved the climate and rendered the winters milder.

"The destruction of forests may, however, be carried to a pernicious extent, either by depriving a country of shelter from particular winds or by lessening too much the quantity of moisture; it being well known that there is a great evaporation from the leaves of vegetables."

8th. THE PREVALENT WINDS OF THE COUNTRY.—The winds of a country produce considerable effect on its climate. The character of a wind, as we have before shown, depends upon the region whence it comes and the nature of the surface over which it passes.

9th. THE ANNUAL QUANTITY OF RAIN THAT FALLS.—The quantity of rain that falls in a country affects the climate by imparting to it a greater or less degree of humidity. In general, more rain falls on islands and on sea-coasts than in inland districts, among mountains than in level regions, and within the tropics than in either of the other zones.

Kinds of Climate.—The climate of a country is said to be *excessive* or *continental* when the contrast between the summer and the winter temperature is very great; and *insular*, when the difference of temperature between these seasons is comparatively small.

For example, the mean summer temperature of England is about 63°, and the mean winter about 37°, making a difference of only 26°; whilst, at Pekin, the mean summer temperature is 79°, and the mean winter 23°, making a difference of 56°. The former has an *insular*, and the latter an *excessive*, climate.

ISOTHERMAL LINES.

Isothermal Lines (lines of equal heat) are lines drawn upon a map, connecting places on the surface of the globe that have the same mean annual temperature. All places situated on the same isothermal line, therefore, have the same mean annual temperature; but this does not necessarily imply that their climates correspond. In some the winters may be mild and the summers only moderately warm, whilst in others the extremes of heat and cold may be experienced.

The Warmth Equator, or line of greatest mean annual heat, extends for the most part north of the equator; which is owing to the position of the great land masses of the earth.

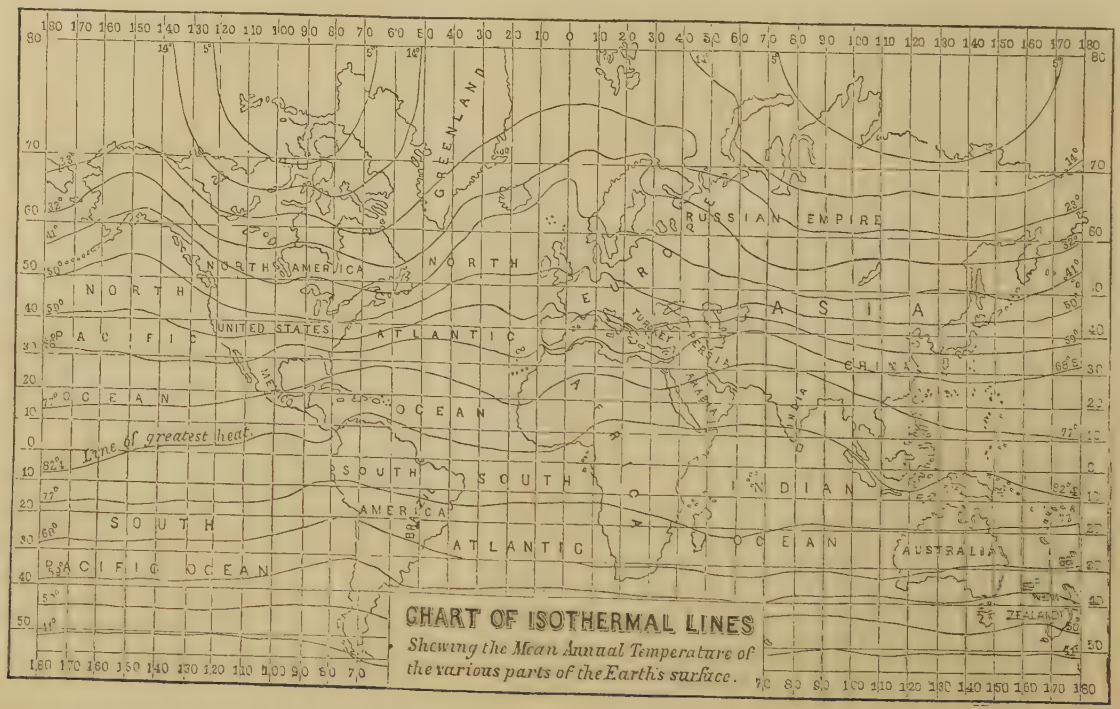


CHART OF ISOTHERMAL LINES

Shewing the Mean Annual Temperature of the various parts of the Earth's surface.

CHAPTER XV.

THE GEOGRAPHICAL DISTRIBUTION OF MINERALS.

It belongs to the science of Mineralogy to treat of the properties of the various mineral substances of the earth: Physical Geography merely takes cognizance of the geographical localities of those minerals which enter largely into the composition of rocks, describing such of their properties as tend to unfold the structure of the earth's crust.

Minerals.—These are natural productions of the earth formed by the action of chemical affinities, and organized, when becoming solid, by the powers of crystallization.

How Deposited.—They are deposited in veins, or fissures of rocks, in masses, in beds, and sometimes in gravel and sand.

How Diffused.—They are very widely diffused over the earth; there being but few countries of any extent that do not contain some of them.

METALS.

Metals.—They are sometimes found pure, but are generally mixed with other minerals, in a rocky substance which is called *ore*. The most important metals are gold, platina, silver, iron, copper, zinc, lead, tin, mercury, or quicksilver, cobalt, arsenic, antimony, and bismuth.

Gold.—This is the most precious of the metals. It is usually found in grains, or gold-dust in a pure state. Lumps, or "nuggets," are rarely found, and they seldom exceed a few pounds in weight. Its geographical localities are as follows, viz:—

In British America.—Small quantities of gold have been found in Canada.

In the United States.—There are two gold regions in the United States, viz:—the Appalachian and the Californian. The Appalachian gold region extends from the Rappahannock River, in Virginia, to the Coosa, in Alabama. The Californian gold region is in the great valley of the Sacramento and the San Joaquin, which extends from north to south about 500 miles, with an average breadth of about 60. The mines of this region are among the richest in the world. They produce annually about 50,000,000 of dollars.

In Mexico.—Gold is found in great abundance in various parts of Mexico, and in some districts of Central America.

In South America.—Gold is obtained along the base of the Andes, almost throughout their whole extent. Brazil is also rich in this metal.

In Europe.—Gold is found in most parts of Europe, but nowhere in large quantities. The chief gold mines of this grand division are at Kremnitz, in Austria, which produce more than all the other mines of Europe.

In Asia.—Gold is abundant in some parts of Asia, especially in Western Siberia. The deposits at the foot of the Ural Mountains are very rich. Japan is believed to contain considerable quantities of this metal.

In Africa.—This country furnishes large quantities of gold, which are washed down from the mountain crevices by the rivers. It is especially abundant in Western Africa, among the Kong Mountains and along the Niger River, also in various parts of the eastern coast.

In Oceania.—The gold region of Australia is, next to that of California, the most productive in the world. It occupies the south-eastern part of the Continent. Its annual yield is estimated at nearly 40,000,000 of dollars.

The islands of the Asiatic Archipelago, particularly Borneo, Celebes, and Sumatra produce considerable quantities of gold.

Platina.—This is a grayish metal, more rare, and, on some accounts, more valuable, than gold, and is sometimes found in connection with it. It is obtained in some of the gold washings of South America, and has been discovered in the Ural Mountains in considerable quantities. Too little, however, has as yet been obtained to render it an important article of commerce.

Silver.—This metal is frequently found pure and in large masses; it is also found mixed with gold, copper, arsenic, and sulphur. Its geographical localities are as follows, viz.:—

In the United States.—There are no silver mines worked in this country. All that is produced comes from the gold of California. It has also been discovered in small quantities in lead ore.

In Mexico.—This country contains the richest silver mines in the world. Their annual yield is estimated at 28,000,000 of dollars.

In South America.—The countries of South America noted for their silver mines, are Peru, Bolivia, and Chili.

The quantity of silver found in other parts of the world is comparatively insignificant. The principal mines in Europe are those of Schemnitz and Kremnitz in Hungary, and those of Spain.

Iron.—This is the most useful, and the most extensively diffused of all the metals. It is estimated that it forms two per cent of the earth's crust.

The countries where it is found in the greatest abundance are the United States and Europe. In the former, the States most noted for its manufacture are Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Virginia, Ohio, Kentucky, Tennessee, and Missouri. Iron Mountain in the State last named is composed entirely of specular iron ore. It is 1,500 feet in height.

Whitney estimates the entire produce of the iron mines in the United States, in 1854, at 1,000,000 tons; in Great Britain, at 3,000,000; and in Continental Europe, at 1,817,000 tons.

Copper.—This metal ranks next to iron in utility, and, though less abund-

ant, is found in many parts of the earth. It is sometimes obtained in pure metallic masses of several tons in weight.

The richest and purest copper mines in the United States, and probably in the world, are found in Northern Michigan on the shores of Lake Superior. The native metal has here been chiselled out in masses weighing several tons of almost unadulterated copper.

The most noted copper region of South America is in Chili; the most noted of Europe is in England. These two countries supply about one-half the amount of copper consumed in the world. Japan, and some of the islands of Australasia, and Malaysia, also furnish copper to some extent.

Zinc.—This metal, which is combined with copper to form brass, is found in many countries in considerable abundance. The countries most noted for extensive zinc mines are Prussia and Belgium.

Lead.—Lead is found in greater or less quantities in all countries. Those particularly distinguished for the amount of lead annually produced are the United States, Great Britain, and Spain.

Tin.—This metal is found in but few countries. The most noted places where it can be obtained are at Cornwall, in England; and the Island of Banca in the East Indies, or the Asiatic Archipelago.

Mercury.—The principal quicksilver mines of the world are those of California, (about 13 miles from San José), of Peru, in South America, of Idria, in Southern Austria, and of Almaden, near Cordova, in Spain.

Cobalt.—This metal is used chiefly for imparting a blue color to glass and porcelain. It is obtained almost entirely from Germany.

Arsenic.—This metal is procured chiefly from Germany and the countries on the Mediterranean Sea. Some of its ores form brilliant colors for the painter.

Antimony and **Bismuth.**—These are brittle substances which are combined with lead to form a metal used for printing types. They are not common, and are found chiefly in Germany.

INFLAMMABLE MINERALS.

The chief inflammable minerals are, coal, sulphur, bitumen, and amber.

Coal.—This highly important combustible mineral is divided by mineralogists into three distinct species, viz:—anthracite, bituminous, and lignite. It is more or less abundant in most secondary countries: but is less common in primitive regions.

Coal is particularly abundant in some parts of British America and the United States, in South America, in Great Britain, in portions of the European Continent, and also in China. It is believed that the largest coal-fields in the world are those of the United States.

JET.—That particular kind of coal which is known by the name of *jet*, is

much used for mourning ornaments, as necklaces, rings, bracelets, etc. In the single department of Aude, in Southern France, there are about 1,200 persons employed in the manufacture of different articles from jet. The quantity of this mineral so applied amounts annually to a thousand hundred weight.

Sulphur.—This simple mineral substance is sometimes called brimstone, that is, *burn-stone*, from its great combustibility. It is found chiefly in volcanic countries. Sicily and Iceland abound with this mineral.

Bitumen.—This mineral is sometimes found in a solid, and sometimes in a fluid, state. In its solid state it is called asphaltum. In the vicinity of the Caspian Sea there are several bituminous springs. Near Rangoon, in Birmah, the bituminous, or petroleum, springs are supposed to furnish 100,000 hogsheads annually.

Amber.—This is a resinous substance often made into ornaments. It is obtained chiefly in Prussia, on the shores of the Baltic.

CHAPTER XVI.

THE GEOGRAPHICAL DISTRIBUTION OF PLANTS, ANIMALS, AND MAN.

Multitudes of plants of different species are found in all parts of the earth. They are not scattered indiscriminately over its surface, but are placed in regions specially adapted to their respective wants.

It is not the legitimate province of Physical Geography to investigate the nature and structure of plants, but to notice merely their general arrangement and the circumstances which regulate their geographical distribution.

Plants.—Number of Species.*—The number of known species of plants, according to Mr. Hinds, is 89,000; and, computing for countries scarcely examined or as yet wholly unexplored, he supposes the total aggregate of species to amount to about 133,000.

Of these numerous species, the most important are those that afford food and clothing. The chief food plants are grain, fruits, grasses, and tuberous roots; and the most noted plants that produce materials for clothing, are cotton, flax, and hemp.

Distribution.—Though plants have their native regions, from which they have been more or less spread by natural means or by the agency of man, their geographical distribution over the earth's surface may be considered as dependent mainly on temperature, modified by the moisture or dryness of the atmosphere. The great influence which

* A species comprises all the individuals that come from a single stock or pair; and a *genus* includes several species having certain properties in common.

temperature exercises on vegetation is shown in the different characters of the floras * of hot, temperate, and cold climates.

Flora of the Torrid Zone.—Here vegetation exhibits its greatest variety, and presents productions more splendid in their colors, and stately in their form, more fragrant in their odor and pungent in their taste, than those of any other region of the globe.

This zone is noted for palms, bananas, sugar-cane, coffee, cocoanuts, spices, rice, maize, arrow-root, cassava-root, etc., together with a great variety of luscious fruits. Its timber trees are both numerous and important; the hardest and heaviest woods are generally produced here, and also most of the dye-woods.

The same species which are the slender and humble plants of colder regions, become lofty trees within the limits of the torrid zone. The number of species inhabiting this zone bears a very large proportion to that of the inhabitants of the temperate climates, and these again are much more abundant than those of the Arctic regions.

Flora of the Temperate Zones.—Vegetation in these zones is luxuriant during summer, but it ceases for the most part in winter, when the trees and shrubs generally shed their leaves. Here wheat, barley, oats, rye, maize, grasses, flax, hemp, the vine, apple, and similar fruit trees, flourish; together with several kinds of berries and a great variety of garden vegetables. Here are found trees in great numbers, among which may be mentioned the oak, the hickory, the pine, the elm, the beech, the fir, the cedar, and the maple.

The warmer regions of the temperate zones (which border on the torrid zone) produce a great variety of what are called tropical fruits and plants: such as, oranges, lemons, figs, olives, sugar-cane, coffee, rice, etc.

Flora of the Frigid Zones.—In this zone all trees, except birches, beeches, alders, and a few others, almost entirely disappear. Heaths, moss-plants, and lichens, are abundant on the rocks, and grass grows during the summer.

Vegetation in the frigid zones is exceedingly scanty, and it ceases for the greater part of the year, except during a few weeks in summer. Such is the power of the sun at this season and the consequent rapidity of vegetation, that plants spring up, blossom, produce their seed, and die, in about six weeks.

In that part of the Arctic region which borders on the north

* The term *flora* (the name of the goddess of flowers) is used to denote collectively the plants of any particular country.

temperate zone, barley and oats flourish in the valleys. Vegetation ceases in the northern hemisphere in about latitude 75°, while in the southern hemisphere no traces of it are found beyond latitude 59°.

Besides the localization according to climate, plants are also distributed in distinct groups in certain regions of the earth. Thus, the plants of Australia are mostly peculiar to that region; the plants of South Africa differ from those of North America; and the plants of New Zealand from those of Great Britain.

Perpendicular Distribution of Plants.—Plants have a perpendicular distribution, in an order corresponding to their distribution in zones of latitude. Thus, we find on a high mountain range within the tropics, the lower part of it covered with palms, orange-trees, sugar-cane, etc.; the middle with oaks, elms, firs, and similar trees; the higher part with birches, mosses, and lichens, extending to the line of congelation, beyond which vegetation entirely ceases.

THE GEOGRAPHICAL DISTRIBUTION OF ANIMALS.

The geographical distribution of animals, like that of plants, depends partly on temperature and climate and partly on local causes.

"Noxious as are some species of animals to us, and insignificant as many of the inferior tribes may appear, they all act their appointed part in the economy of nature; fulfilling the offices assigned to them by the Creator."

There is, as we have before remarked, an evident relation between the *fauna* * of any locality, and its climate; and, on this account the faunas of the earth may be arranged into three principal divisions, viz:—the torrid, or tropical, the temperate, and the frigid.

These may be again divided into several zoological districts, depending on longitude or on the peculiar configuration of the continents. It is not our purpose here to notice these, but merely to glance at the most prominent characteristics of the first three divisions mentioned.

The Fauna of the Torrid Zone.—This zone is as full of animal as of vegetable life; the influence of heat, light, and abundance of vegetation tending to its increase. The minuter beings,—as molecules, insects, reptiles, birds, etc., here swarm in great numbers; together with animals of gigantic size, such as the elephant, camel, rhinoceros,

* A group of animals that inhabits any particular region, embracing all the species, both the aquatic and the terrestrial, is called its *fauna*.

giraffe, or camelopard, buffalo, tapir, and hippopotamus. Here too, is the region of numerous animals of prey, among which may be mentioned the lion, tiger, puma, and hyena, the vulture and condor, the rattlesnake and boa constrictor.

The variety of the tropical fauna is much enriched by the circumstance that each continent furnishes new and peculiar forms. Thus, the sloth, the toucan, the condor, and the humming-bird, are peculiar to America; the giraffe and hippopotamus to Africa; the dingo, the kangaroo, and the ornithorhynchus, to Australia.

Among the remarkable species of the African tropical regions, not mentioned above, are the crocodile of the Nile, the baboon, the orang-outang, and a great variety of antelopes.

The Fauna of the Temperate Zones.—The temperate zones are favorable to all herbivorous animals,—as the horse, ass, ox, buffalo, deer, sheep; to numerous birds; and to various tribes of the lower order of animals. Among the chief beasts of prey may be mentioned the wolf, fox, lynx, bear, and otter.

On each of the two grand divisions of Europe and America, there are a certain number of species which extend from one extreme of the temperate zone to the other. Such, for example, are the deer, the bison, the cougar, the flying squirrel, the rattlesnake, together with numerous birds of prey and several kinds of tortoises, in America; and in Europe, the brown bear, the wolf, the swallow, and many kinds of birds of prey.

Those parts of the temperate zones which are covered with forests, swarm with insects, worms, etc., which become the food of other animals; still the climate, over the whole extent of these zones, is not sufficient to allow the trees to retain their foliage throughout the year. In the northern part of the north temperate zone, the leaves, except those of the pine, the spruce, and other evergreens fall, on the approach of winter, and vegetation is arrested for a certain period.

Insects then retire, and the animals which live upon them, no longer finding nourishment, are obliged to migrate temporarily to warmer regions, on the borders of the tropics, where, on the ever verdant vegetation, they find the means of subsistence. Some animals, at this season, live in a state of torpor, from which they awake in spring; others retire into dens, and live on the provisions they have stored up during the warm season; and there are still others that do not change either their abode or habits.

The Fauna of the Arctic Zones.—The species of animals in this zone are few in number; but, on the other hand, the number of individuals comprised in each, is immense.

We need refer only to the clouds of birds which hover upon the islands and shores of the Arctic region; the shoals of fish, the salmon among others, which throng the coasts of Hudson Bay, Greenland, and Iceland.

Among the most conspicuous animals may be mentioned the white bear, the moose, the reindeer, the musk-ox, the white fox, the polar hare, and the lemming. Seals, whales, walruses, and innumerable medusa * inhabit the ocean, whose waters are, even here, more genial than the freezing air. Among the birds, we may enumerate some sea-eagles and a few waders, with a large number of other aquatic species, such as gulls, cormorants, divers, petrels, etc.

Vertical Distribution of Animals.—Animals observe also a *perpendicular* arrangement, according to height above sea-level; occupying different zones of mountains in a similar way as plants. Thus we find on a lofty mountain range, the higher portions of it occupied by a different kind of animals from those inhabiting the lower portions.

The most important wild animals that produce articles useful to mankind are the following:—

MAMMIFERS.

Names.	Products.
The Greenland Whale,	Oil and whalebone.
The Walrus,	Oil.
The Seal,	"
The Sperm Whale,	Oil and spermaceti.
The African Elephant,	Ivory and food.
The Beaver,	Fur.
The Sable,	Fur.
The Ermine,	Fur.
The Squirrel,	Fur.
The Arctic Fox,	Fur.
The Coypi,	Fur.
The Chinchilla,	Fur.
The Peccary,	Food and leather.
The Kangaroo,	Food and leather.
The Reindeer,	Food and leather.
The Elk, or Moose,	Food and leather.
The Antelope,	Food and leather.
The Chamois,	Food and leather.
The Bison,	Food and leather.
The Buffalo,	Food and leather.

BIRDS.

Names.	Products.
The Ostrich,	Feathers.
The Eider Duck,	Feathers.
The Swan, Goose, Duck, Ptarmigan, Snipe, Partridge, Quail, etc.	Food.

REPTILES.

Names.	Products.
The Turtle,	Food.
The Iguana,	Food.
The Frog,	Food.
The Alligator,	Leather.

FISH.

The Sturgeon,	Food and isinglass.
The Cod,	Food and cod-liver oil.
The Salmon, the Herring, the Shad, the Mackerel, the Turbot, etc.,	Food.

INSECTS.

The Silk-worm,	Silk.
The Cochineal insect,	Cochineal.
The Lac insect,	Lac.
The Gall insect,	Galls.
The Bee,	Honey and wax.

MOLLUSKS, ETC.

The Pearl Oyster,	Pearl.
The Common Oyster,	Food.
The Red Coral Builder,	Red Coral.
The Trepang,	Food.

THE GEOGRAPHICAL DISTRIBUTION OF MAN.

Man is dispersed over every region of the globe. His physical capacities enable him to adapt himself to almost every variety of soil and climate.

* Medusa, a genus of gelatinous, radiate animals, sometimes called *sea-nettles*.

Races of Men.—Naturalists have classified the human species into various races, each possessing certain distinguishing characteristics.

Dr. Pritchard, in his work entitled "The Natural History of Man," arranges the inhabitants of the earth into three great classes, according to the color of the hair, viz:—

The *Melanic*, or black class, which comprises all individuals that have black hair; the *Xanthous*, or fair class, which embraces those that have brown, auburn, yellow, flaxen, or red hair; and the *Albino*, or white class, which includes those with white hair and red eyes.

Blumenbach, a distinguished naturalist, has arranged mankind into five classes, according to the form of the skull, viz:—the *Caucasian*, the *Mongolian*, the *American*, the *Ethiopic*, or *African*, and the *Malay*.

REMARK.—The physical characteristics and geographical distribution of these races have been treated of in the former part of this work, and, therefore, they need not be repeated here.

Languages of Mankind.—Another mode of classifying the races of mankind is by the affinity of languages. A comparison of various languages, shows that many of them have a sort of family resemblance, or relationship, a large portion of their elements, or roots, being common to a whole group.

Nations, whose idioms have this affinity, are regarded as allied in origin; and groups of tongues thus related are termed *families* of *languages*.

One strongly marked family of languages consists of the dialects collectively called the *Semitic*.* To this family belong the *Hebrew*, the *Aramean*, (which includes the Babylonian and the Syriac,) and the *Arabic*, to which the Ethiopic is very closely allied.

Another family of languages is the Indo-European, which includes various tongues of Europe and Asia. It consists of six principal branches, viz:—the *Sanscrit*, and all its dialects in India; the ancient *Zend*, or *Medo-Persic* language, and all the dialects now spoken in Persia and Armenia; the *Greek* and *Latin* languages, and all the tongues which have sprung from them; the *Slavonic*, the origin of the Russian, Polish, and Bohemian languages; the *Teutonic*, with the Gothic, embracing the different German dialects, the Anglo-Saxon, Danish, Swedish, etc.; and the *Celtic*, which includes the Welsh, Cornish, Gaelic, Erse, etc.

These two great families, the Semitic and the Indo-European, are spread over those portions of the globe, inhabited by the Caucasian race. Through

* The Semitic family of languages is so named from the supposed descent of the nations who speak them from Shem, the son of Noah.

European colonists, the European branches have been extended to America and several other parts of the world.

"Another accordance existing between languages is that of *analogy*. Many idioms which are entirely distinct from each other, and have few, or perhaps no words in common, are yet found to bear a striking resemblance in their grammatical structure."

"Languages bearing this resemblance are not considered as belonging to the same family, but to the same *school*, or *class* of languages." Idioms of this description are spoken by the Chinese, Thibetians, Siamese, and nearly all the Indo-Chinese nations. Their languages, however, though possessing this agreement of structure, are totally distinct from each other.

Another class of languages comprises those called *polysynthetic*, or polysyllabic. To this class belong all the idioms of the Aborigines of America.

REVIEW LESSONS.

QUESTIONS ON PHYSICAL GEOGRAPHY.

LESSON I.

1. What is Physical Geography? What is generally supposed respecting the interior of the earth? What is the earth's surface? How is it supposed that this crust, or surface, was produced? What do we know of its structure? How are the materials of the earth's crust arranged? In what sense do geologists use the term *rock*?

2. Into how many classes are these rocks divided? Mention them. Describe the igneous rocks. How have the aqueous rocks been formed? Which class of rocks is stratified? What do you understand by stratified rocks? What rocks are crystalline in their structure? What contain the remains of animals and vegetables?

3. Into how many groups may the aqueous rocks be divided? What do we obtain from igneous rocks? What from the aqueous? Of what is common soil composed? What is the density of the earth? By what are its great cavities occupied? Which occupies the greater portion of the surface of the globe, land or water?

4. What country is nearly in the centre of the greatest mass of land? What island in the centre of the greatest mass of water? How may the land be arranged? Mention them. To how many detached portions of land may the term continent with propriety be applied? What is the largest called? The next in size? The smallest?

5. To what is this term sometimes applied? What is the general form of

the continents? Describe their southern coasts. Their northern. How do the proximate sides of the Eastern and Western Continents appear? What indentation in the coast of Africa, opposite the great eastern projection of South America? What indentation in the American coast, opposite the great western projection of Africa?

6. Describe the general features of the land on the globe. How are mountains generally arranged? What is meant by the term chain? What constitute a mountain system? In what order do mountains rarely occur? Mention a few examples of isolated mountains. On what does the form of mountains chiefly depend?

7. What has been observed respecting the slope of mountains? What is the less steep side of a mountain called? What, the steeper? On which side do the Rocky Mountains have their longer slope? The Andes? The Scandinavian? The Himalaya? The Atlas? The Pyrenees? The Alps? What do you gather from these facts?

8. Mention the highest mountain range in the world. Name the loftiest peak of each of the grand divisions of the earth. How do the elevations of the earth's surface appear when compared with the whole mass of the globe? To what part of the earth's radius is the loftiest peak equal?

9. With what does the general direction of mountain ranges accord? Mention some examples. Of what use are mountains? What are volcanoes? How many kinds of volcanoes are there? What are the causes of volcanic eruptions?

10. Where are traces of extinct volcanoes found? What is the supposed number of volcanoes? How many of these are situated on islands? Where are the active volcanic sites in the Old World? Where in the New World? How many in America on the continent? How many in Europe? Asia? Africa?

11. Of what use are volcanoes? What are earthquakes? Where are they most common? What is the cause of earthquakes? How do they differ in character? How many kinds of movements are there? What shocks are the most destructive?

LESSON II.

REVIEW QUESTIONS.—CONTINUED.

1. What are table-lands? Describe the chief table-lands of North America. Of Europe. Of Asia. Of Africa. Of Australia. What are lowland plains? Mention some examples of remarkable depressions of the earth's surface.

2. When we speak of plains, do we always intend to convey the idea of a *perfectly* horizontal surface? When not *perfectly* horizontal, or level, what are they called? Mention the most important plains of North America. Mention

those of South America. How far does the great European plain extend? Mention the other important plains of Continental Europe?

3. Describe the plains of Asia. What plains do we know of in Africa? What are deserts? What are fertile spots that occur in deserts called? Is there any desert in North America? What is its length and breadth? What deserts in South America? What in Asia? In Africa?

4. What are valleys? How are they divided? What are longitudinal valleys? What are transverse? What are mountain passes called in the Alps? In the Pyrenees? What in the United States? In what range are the highest mountain passes?

5. Where is the loftiest carriage road known? What is the height of the pass from Valparaiso to Mendoza? From Lima to Pasco? How are islands distributed over the surface of the globe? What are they supposed to be?

6. How many classes of islands are there? What are continental islands? What, pelagic? What islands are constructed chiefly by insects? What are they called? Describe the formation of a coral island. What are shoals? Banks? Reefs?

7. To what is water essential? In what states does it exist? In what form does it appear in the aëriform state? In the solid? In the liquid? What are the properties of pure water? Is water generally pure? How much heavier is water than air? How many ounces does it weigh per cubic foot? How does heat affect water? How cold?

8. At what temperature (Fahrenheit) does water boil? What must be the circumstances when water boils at this temperature? What effect is produced on the boiling point, when the atmospheric pressure is lessened? What effect for every 555 feet of ascent? For what must we make a little allowance?

9. How may the waters of the globe be divided as respects position? How, as respects properties? What is the character of most of the continental waters? How are springs formed? What are perennial springs? What, intermitting?

10. Into how many classes are springs divided? Describe thermal, or hot springs. What are ebullient springs? What, inflammable? What are mineralized springs? How may they be divided as respects properties? Describe those of each class.

11. What are lakes? How may lakes be divided with respect to their physical characteristics? What are the characteristics of those of the first class? Of the second? Of the third? Of the fourth? What are rivers? What rivers are styled oceanic? What, continental?

12. How are the oceanic rivers divided? To what oceans do these respectively belong? Describe the sources of rivers. What is the tendency of water when left free? In consequence of this, what does the course of a river generally indicate? What does the degree of the declination determine?

LESSON III.

REVIEW QUESTIONS.—CONTINUED.

1. What is a rapid in a river? What, a cataract? What, a cascade? What are river basins? What is meant by a water-shed? How do rivers usually terminate? What are deltas? How many kinds of deltas are there? What are tidal rivers?

2. Describe the phenomenon called the *bore*. When do the highest tides occur? How far do the tides in the Amazon extend? Describe the effect of the tides in this river. On what does the magnitude of rivers chiefly depend? Mention the largest river basin of North America.

3. What is the extent of the greatest river basin of South America? What river discharges annually the greatest amount of water? Mention the greatest river basin of Asia. What are canals? What is a canal lock?

4. What is meant, in an extended sense, by the ocean? Into how many basins is the ocean divided? What is each styled? Mention the two principal basins. Which has the greater extent of coast line? To what is it owing? What are the chief characteristics of the ocean? What is the general color?

5. Mention some examples of different tints in particular parts. What give to sea-water a salt and bitter taste? What part of the surface of the ocean is about 80° Fahrenheit? Where is it about 75°? What is the temperature in the Arctic and the Antarctic Ocean? What is generally supposed with regard to the depth of the ocean?

6. Where have the deepest soundings been made? How does the density of the ocean increase? What is the pressure on a square inch at the depth of a mile and a quarter? What is meant by the level of the sea?

7. How many distinct movements has the ocean? What produces waves? What is the average height of waves produced by storms? What is the height of the loftiest waves? What are tides? By what are they chiefly caused? How do the waters rise? Where are they most elevated?

8. What period elapses between successive returns of the moon to the meridian of a place? How many times do the waters ebb and flow during this period? When do the highest tides occur? Why? When the lowest? Why? What other causes tend to vary the tides? Mention some places where the tides are very high.

9. What are the causes of oceanic currents? Describe the Antarctic drift current. Describe the equatorial current of the Pacific. Describe the Atlantic equatorial current. Describe the equatorial current of the Indian Ocean.

10. How does the main branch of the Atlantic equatorial current proceed? Describe the Gulf Stream. Describe the North polar current. How do seas communicate with the ocean? Which are called inland? Which may be

styled open? Are there any bodies of water called seas, that do not communicate with the ocean? Mention some examples. What are these like?

LESSON IV.

REVIEW QUESTIONS.—CONTINUED.

1. By what is the earth surrounded? Of what is atmospheric air principally composed? What is the ordinary composition of the air by weight? By measure? What is the color of the air? What is the probable height of the atmosphere?

2. Is the weight of the atmosphere uniform? Explain why a gradual diminution takes place as we ascend above sea-level. What is the perpendicular pressure of the whole atmosphere on a square inch? By what is this balanced or weighed? If the pressure of the air be diminished, what effect is produced upon the barometer?

3. For every how many feet of elevation is there a diminution of one inch of mercury? Of what use is the barometer? What other method have we of ascertaining heights that is dependent on the pressure of the atmosphere? At what temperature does water boil at the Hospice of St. Bernard? At what temperature does it boil at sea-level?

4. You have stated that the weight of the atmosphere diminishes with its height, how is it with regard to temperature? For how many feet of ascent does the mercury in the thermometer fall one degree? What is the use of the atmosphere? What is wind? Explain how it is put in motion. How is the direction of winds designated? How, that of marine currents? What is the use of winds? How may they be divided?

5. What are trade winds? Explain the cause of trade winds. What are monsoons? Where and when does the south-west monsoon prevail? When does the north-east monsoon prevail? What are the monsoons thought to be? By what occasioned?

6. Describe land and sea breezes. What are variable winds? Can these winds be accounted for? Why? Mention some peculiar variable winds. To what do these various hot winds owe their origin? What are hurricanes? What are these storms supposed to be? Where do they occur? What are they called in the Chinese Sea? What have they been styled in other places?

7. What are suspended in the atmosphere? By what means are they chiefly supplied? At the temperature of 32° how much water will a cubic foot of air hold in suspension? How much at the temperature of 60°? How much at the temperature of 70°? When is air said to be saturated? If the temperature of the air be lowered, when it is saturated, what effect will be produced?

8. What are clouds? What is dew? By what is it caused? What is hoar-frost? What are mists, or fogs? What is rain? How are rain drops formed? How is this exemplified? Where does the greatest mean annual quantity of rain fall?

9. Is the quantity of rain dependent *solely* on latitude? What effect do trees and elevated land have? Which then is more subject to rain, elevated and well-wooded, or flat and barren, districts? What effect do winds have? Where are those countries situated that have two rainy and two dry seasons during the year?

10. How is it in intertropical regions beyond that degree? During the rainy season does it rain continually? Are there any exceptions to what has been stated? Where are these rainless districts? How are some rainless districts supplied with moisture? Where does it rain almost incessantly? What is this region called? The zone, or belt, of constant precipitation.

LESSON V.

REVIEW QUESTIONS.—CONTINUED.

1. What is snow? Mention the limits of the fall of snow at sea-level, in the Northern hemisphere. Where are the snowless regions at the level of the sea? What is meant by the snow-line? What is the general limit of the fall of snow within the tropics?

2. Where does this limit descend to sea-level? Is the snow-line highest *at* the equator? Where is it the highest? To what is this owing? What are glaciers? Where are they chiefly found? On what does the extent of a glacier chiefly depend? How many are there in the Alps?

3. What are avalanches? What is hail? What, sleet? What is the term climate used to express? What is the great agent that diffuses heat over the globe? When is a place receiving heat? When, parting with it? By what process?

4. Mention the prominent causes that affect climate. What effect does the latitude of a place have on its climate? What effect does elevation above sea-level produce? Describe the effect of mountain chains.

5. What effect does a country's nearness to, or remoteness from, the sea have on its climate? Describe the effect of the slope of a country. Does the soil affect the climate? To what is this owing? How do sandy soils affect the atmosphere? How, clayey? How, marshy grounds?

6. Describe the effects produced on the climate by cultivation of the soil. Do winds affect climate? How does rain affect climate? What is meant by an excessive climate? What by an insular? Mention an example of each. What are isothermal lines?

7. What are minerals? How are they deposited? How diffused? In what state are metals generally found? Which is the most precious of the

metals? In what state is it usually found? Mention its localities in America. In Europe. In Asia. In Africa. In Oceania.

8. What is platina? Where is it found? In what state is silver frequently found? Where in North America are its chief localities? In South America? Where are the principal silver mines of Europe?

9. Which is the most useful and the most widely diffused of all the metals? What per cent of the earth's crust is it estimated to form? Mention the countries where it is particularly abundant.

10. What metal ranks next to iron in utility? In what state is it sometimes found? Where are the richest and purest copper-mines? Mention the other important copper regions of the world.

11. What countries are most noted for extensive zinc mines? What for the amount of lead annually produced? Where can tin be obtained in considerable quantities? Mention the principal quicksilver mines of the world.

12. For what is cobalt chiefly used? Where is it obtained? From what country is arsenic mostly procured? What metals are used for printing types? In what country are antimony and bismuth chiefly found?

LESSON VI.

1. Mention the chief inflammable minerals. How many distinct species of coal are there? Where is coal particularly abundant? What is sulphur sometimes called? Where is it chiefly found? What islands abound with this mineral?

2. What parts of the earth are noted for bituminous springs? Where is amber mostly obtained? How many species of plants is it estimated that there are? How many are now known? Of these, which are the most important?

3. Mention the chief food plants. Mention the most noted plants that produce material for clothing. To what is the geographical distribution of plants mainly owing? Describe the flora of the torrid zone.

4. Describe the flora of the temperate zones. Of the frigid zones. Describe the perpendicular distribution of plants. On what does the geographical distribution of animals depend?

5. Describe the fauna of the torrid zone. Of the temperate zones. Of the Arctic or frigid zones. Describe the vertical distribution of animals. What wild animals are noted for producing oil? What one is noted for producing food and ivory?

6. What animals are noted for yielding fur? What for food and leather? What wild birds are noted for producing feathers? Mention some that are valuable for food. Mention some reptiles used for food. What does the alligator produce?

7. What products do we obtain from the sturgeon? From the cod?

What product from the salmon and other similar kinds of fish? What from the silk-worm? From the cochineal insect? From the lac insect? From the gall insect? From the bee?

8. From the pearl oyster? From the common oyster? From the red coral builder? From the trepang? How have naturalists classified the human species? Into how many classes does Dr. Pritchard arrange the inhabitants of the earth? On what is his classification based?

9. Describe each of these classes. Into how many classes has Blumenbach arranged mankind? On what is his classification based? Mention the name of each of these classes.

10. What other mode is there of classifying the races of mankind? What nations are considered as allied in origin? What are termed families of languages? What languages belong to the Semitic family?

11. Into how many branches is the Indo-European family of languages divided? Mention these. By what race are the Semitic and the Indo-European family of languages used? By what means have the European branches been extended to America?

12. In what other respect do the languages of some nations resemble each other? How are such languages considered? By what nations are idioms of this description spoken? Mention another class of languages. What idioms belong to this class?

SUGGESTIONS TO THE STUDENT.

Relative Position of Countries, etc.—For the purpose of rendering yourself familiar with the relative position of all the countries, etc., of the earth, it would be well to make numerous imaginary journeys on certain parallels of latitude and longitude.

For example: Commence on the 10th parallel of north latitude and start from the Meridian of Greenwich; travel eastward from this point round the globe, and memorize every country, every large city, and every important body of water, in the order you find them.

Make similar journeys on *every* 10th parallel of north and south latitude. Then commence on the Meridian of Greenwich and start from the Equator; travel northward from this point to the 80th degree of north latitude; then, from the Equator to the same degree of south latitude, and memorize the most important countries, cities, and bodies of water you find during these journeys in the order you come to them.

Imaginary voyages may be made to and from noted seaports. In these voyages you should note particularly the bodies of water you cross and the different zones through which you pass.

Comparative Size of Countries.—Having obtained a satisfactory idea of the relative position of countries, you should seek to know their *comparative size*. This knowledge you cannot obtain from maps. Owing to the diversified forms of countries, it is not possible, even when they are drawn on the *same*

scale, to acquire a correct notion of either their actual or their comparative size by means of maps.

There is but *one practical method* of gaining a correct knowledge of the size of countries, and that is by acquainting yourself with the number of square miles each country contains.

You may perhaps think this an arduous and difficult task. Try it according to the directions here given, and you will be both surprised and pleased with the results.

Lesson I.—Commit to memory the area in square miles of each Continent and of each Grand Division of the Earth. (See Vocabulary, Section I., in the accompanying Atlas.) Having done so, turn to the Map of the World, and as each Grand Division comes under your notice, state its area in square miles; after this, compare these countries, that is, ascertain how many times larger or smaller one is than another. Do not leave this lesson until you have completely mastered it. Proceed in the same manner with the following lessons.

Lesson II.—The Chief Divisions of North America.
Lesson III.—The Political Divisions of British America.
Lesson IV.—The States of the United States.
Lesson V.—Review. Compare all these Countries.
Lesson VI.—The Chief Divisions of South America.
Lesson VII.—The Chief Divisions of Europe.
Lesson VIII.—The Chief Divisions of Asia.
Lesson IX.—The Chief Divisions of Africa.
Lesson X.—Review. Compare all the Countries you have learned.
Lesson XI.—The German States.
Lesson XII.—The Italian States.
Lesson XIII.—The larger Islands of the West Indies.
Lesson XIV.—The larger Islands of Oceania.
Lesson XV.—Review. Compare all the Countries and Islands you have learned. You may extend this course of study with great profit. Enough is here given to serve as a guide.

EXPLANATION.

The small letters on the flags in this work, are designed to indicate the color of their stripes, etc. Thus B. is blue; Y., yellow; G., green; R., red; and W., white.

APPENDIX.

RULES FOR DESCRIBING THE NATURAL DIVISIONS OF THE EARTH.

INCLUDING DEFINITIONS OF TERMS AND EXAMPLES.

LAND DIVISIONS.

Continent is the name usually applied to the largest three natural divisions of land.

RULE.—First tell which hemisphere it is in, and then what bodies of water surround it.

Example.—The Western Continent is in the Western Hemisphere, and is surrounded by the Arctic, Atlantic, Southern, and Pacific Oceans.

An Island is land surrounded by water, like a continent, only it is not so large.

RULE.—First tell its direction from the nearest coast, and then what bodies of water surround it.

Example.—Newfoundland is east of continental British America, and is surrounded by the Strait of Belleisle, the Atlantic Ocean, and the Gulf of St. Lawrence.

A Peninsula is a portion of land not quite surrounded by water, and is always joined to some larger portion of land.

RULE.—Tell first its direction from the main land, and then what bodies of water nearly surround it.

Example.—South America is south-east of North America, and is nearly surrounded by the Caribbean Sea, the Atlantic Ocean, the Strait of Magellan, and the Pacific Ocean.

An Isthmus is a narrow strip, or neck of land, which joins a peninsula to the main land.

RULE.—Mention first what bodies of water it lies between, and then what countries it connects.

Example.—The Isthmus of Suez lies between the Mediterranean and the Red Sea, and connects Africa with Asia.

A Cape is a point of land which projects into the water.

RULE.—First tell what coast of what country it projects from, and then into what body of water it projects.

Example.—Cape St. Roque projects from the eastern coast of Brazil, into the Atlantic Ocean.

A Promontory is a high or mountainous point of land which projects into the water.

A Mountain is a very large mass of earth and rock which is considerably elevated above the surrounding country.

RULE.—State in what part of what country it is situated.

Example.—Mount Etna is in the north-eastern part of the Island of Sicily.

Continuous elevations of land, or, in other words, many mountains joined together, are called a Range, or Chain.

RULE.—State in what country or countries it is situated, and then in what direction it extends.

Example.—The Rocky Mountain Range is in British America and the United States, extending in a north-westerly and south-easterly direction.

A Volcano is a mountain with an opening in the top, or side, from which issue at times fire and smoke.

The opening in the top, or side, of a volcano, is called a Crater.

A Hill is a portion of land higher than the surrounding country, but not so high as a mountain.

A Shore or Coast is the strip of land which borders upon any body of water.

WATER DIVISIONS.

An Ocean is the largest natural division of water on the earth.

RULE.—Tell its direction from the coasts it washes.

Example.—The Atlantic Ocean is east of America and west of Europe and Africa.

TO THE PUPIL.—As there can be but *one* largest natural division of water on the earth, it follows that there is, strictly speaking, but one ocean.

For convenience of description, however, the Ocean is divided into five parts, each being styled an ocean, and designated by a particular name. Hence we have five oceans, viz.: the Arctic or Northern, the Antarctic or Southern, the Atlantic, the Pacific, and the Indian.

A Sea is a branch of the ocean, or another sea, partly inclosed by land.

RULE.—Tell its direction from the coast or coasts it washes, and then of what body of water it is a branch.

Example.—The Red Sea is west of Asia and east of Africa. It is a branch of the Indian Ocean.

REMARK.—There are bodies of water called seas which are really lakes (such as the Caspian, the Dead, and the Aral); these should be described as lakes. They are frequently called *Inland Seas*, and sometimes, *Detached Seas*.

A Gulf or Bay is a branch of some large division of water, extending into the land.

RULE.—State first its direction from the nearest coasts, and then of what body of water it is a branch.

Example.—The Gulf of Mexico is south of the United States, and east of Mexico. It is a branch of the Atlantic Ocean.

REMARK.—There is but little difference between a bay and a gulf. Generally speaking, a bay is more open than a gulf.

A Strait is a narrow body of water which connects two large bodies of water.

RULE.—State first between what countries it lies, and then what bodies of water it connects.

Example.—The Strait of Gibraltar lies between Spain and Morocco, and connects the Mediterranean Sea with the Atlantic Ocean.

A Sound is a narrow body of water sufficiently shallow to be sounded, that is, to have its depth ascertained by a lead and line.

A Channel is a narrow arm of the sea, which is generally so situated as to perform the office of a strait.

RULE.—If a sound or a channel is so situated as to perform the office of a strait, it should be described as such; if not, follow the rule for describing a bay or gulf.

A Lake is a body of water formed by streams, or springs, which is almost, and sometimes *quite*, encircled by the land.

RULE.—Tell first in which part of what country it is situated, and then what stream, if any, serves as its outlet.

Example.—Great Slave Lake is in the northern part of British America, and the Mackenzie's River is its outlet.

REMARK.—Streams which empty into a lake are called *Inlets*; and those which flow from a lake are called *Outlets*.

A River is a stream of water flowing in an open channel through the land.

RULE.—Tell first where it rises, next what course it flows, and then into what body of water it empties.

Example.—The Mississippi River rises in the central part of Minnesota Territory, in Itasca Lake, flows a southerly course, and empties into the Gulf of Mexico.

REMARK.—The Source or Head of a River is where it rises or begins to flow. The Mouth of a River is where it discharges its surplus waters into some other body of water. Rivers that flow into other rivers are called *Branches*, *Affluents*, or *Tributaries*.

A Frith or Estuary is a narrow arm of the sea, into which a river empties, or the widening of a river at its mouth. Small streams of water are called *Brooks*, *Creeks*, *Rivulets*, or *Rills*.

An Archipelago is a sea interspersed with many isles, or a group of isles.

REMARK.—It will be perceived that several of the divisions of land and water above described, resemble each other in their general forms. Thus the continent, the island, the peninsula, the isthmus, correspond respectively to the ocean, the lake, the gulf, and the strait.

It may also be remarked that most of the terms applied to the natural divisions of land and water do not admit of being strictly defined. For example, there is no fixed limit to determine what should be called a strait and what a sound, what a sea and what a lake. Gulfs and bays are also constantly confounded. Peninsulas are, in some instances, connected with the main-land by a narrow strip of land, called an isthmus, and in others they are not so connected. It has been proposed to limit the signification of the term peninsula, by excluding any projecting portion of land (now denominated a peninsula) which is attached to the main-land by a greater extent of line than one-fourth of its circumference.

POLITICAL DIVISIONS, ETC.

An Empire is a country which is governed by an Emperor.

REMARK.—The term empire is sometimes used to denote any region over which dominion is extended.

A Kingdom is a country which is under the dominion of a King or Queen.

REMARK.—A division, or part, of an empire, is sometimes styled a kingdom. For example, the Kingdom of Illyria, which is a part of the Austrian Empire.

A Republic is a country which is governed by men who are chosen by the people.

A State is a division of country which has a form of government peculiar to itself, for the regulation of its own affairs; but is usually united with other states under a general government.

REMARK.—The above definition applies more particularly to the divisions of a republic; and, therefore, to the states of our own country; but the term state is often used to denote the whole body of people united under one form of government. Any country whose inhabitants are thus united, may be styled a state.

A Duchy is a country governed by a Duke. A Grand Duchy is a country governed by a Grand Duke. A Principality is a country governed by a Prince. An Electorate is a country governed by an Elector. A Landgraviate is a country governed by a Landgrave.

REMARK.—In Germany, certain princes were formerly electors of the emperor, and elector was one of their titles. Landgrave signifies earl or count.

Empires, Kingdoms, Republics, States, etc., are generally divided into Counties, Parishes, Districts, Shires, Provinces, Departments, Governments, or Cantons.

A Township is a division of a county.

A Village is a small collection of houses and inhabitants established in one place.

A Town is a large collection of houses and inhabitants established in one place. A City is an incorporated town.

An Incorporated Town is invested by law with certain rights and privileges, more than it possessed prior to its incorporation.

The Capital of a country is the seat of government; or, in other words, the city in which the Officers or Legislature meet to make laws for the country over which their jurisdiction extends.

A Metropolis is the city of any state or country, which contains the greatest number of inhabitants, or the chief city.

The Chief Magistrate of a Republic is styled President. The chief officer of a Republican State is called Governor. The chief officer of a city is styled Mayor.

DIRECTIONS FOR MEMORIZING THE CONTENTS OF A MAP.

Chief Political Divisions, or Countries.—Begin at the north-west corner of the map, mention those countries which are situated along the northern coast, next those on the eastern, then on the southern, and lastly, those on the western. When there are countries situated in the interior, mention them last of all.

Counties, etc.—Mention the border counties first, beginning with the one in the north-western part of the state; after which name the interior counties, observing the same order.

Capitals and other Cities.—Mention the capitals and other cities in the order in which the countries are named.

Mention the cities which are situated in the northern part of a country first, then those toward the eastern part, next the southern ones, then the western, and lastly those in or near the centre.

Islands.—Begin at the north-west corner of the map, look along the coast and some distance from it, taking an easterly, southerly, westerly, and northerly course, quite round the map, and mention the islands in the order you find them.

Peninsulas and Capes.—Commence at the same corner of the map as before directed, and look along the northern coast, then the eastern, next the southern, and lastly the western, and name the peninsulas and capes in the order you meet with them.

Mountains.—The same directions which were given for memorizing the cities of a country, will answer for the mountains.

Seas, Gulfs, Bays, Straits, Sounds, and Channels.—In mentioning these divisions, observe the same direction as for the capes.

Rivers.—I. Mention first those rivers which empty into bodies of water on the north, then those which flow into bodies of water on the east, next those which flow into bodies of water on the south, and lastly those which flow into bodies of water on the west.

II. Whenever you mention a river, see whether it has any branches; if so, name them before passing to the next river in order.

III. If the river runs a northerly or a southerly course, name its eastern branches first, beginning with the one nearest the source of the main river, and then the western branches in like manner.

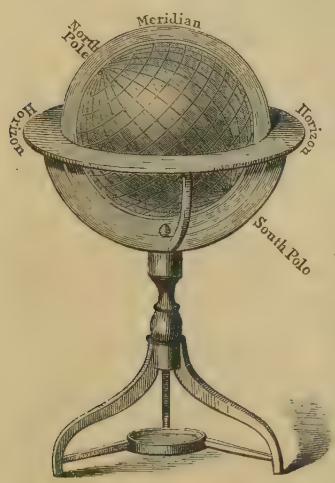
IV. If the main river runs an easterly or a westerly course, then name its northern branches first, beginning as before directed.

Lakes.—Lakes are to be memorized in the same order as rivers; that is, those lakes whose outlets lead into northern bodies of water first, and so on. Lakes having no outlets to be mentioned last.

REMARK.—Physical and political divisions which are connected only with islands, are to be mentioned after those situated on, or connected with, the continental part of a map. For example,—in mentioning the straits of North America, Davis Strait should be named after all the others; because it is not connected with any part of continental North America.

ARTIFICIAL GLOBES.

There are two kinds of artificial globes, viz.: Terrestrial and Celestial. The TERRESTRIAL GLOBE is an artificial representation of the earth. The CELESTIAL GLOBE is an artificial representation of the heavens.



THE BRAZEN MERIDIAN is the circle of brass which encompasses the terrestrial globe. It is intended to represent the meridian of any place, and is divided into 360 equal parts, called degrees.

On one semicircle of this brass, or brazen meridian, the degrees are numbered from the equator toward the poles; and on the other, from the poles toward the equator.

THE HOUR CIRCLE on the terrestrial globe is a small circle, described around the North Pole, with the hours of the day marked upon it. A brass-index, or pointer, is placed in the centre of this circle, and attached to the North Pole for the purpose of indicating any required hour.

THE QUADRANT OF ALTITUDE is a thin, flexible strip of brass, divided upward, from 0 to 90 degrees, and downwards, from 0 to 18 degrees. When used it is generally screwed to the brazen meridian.

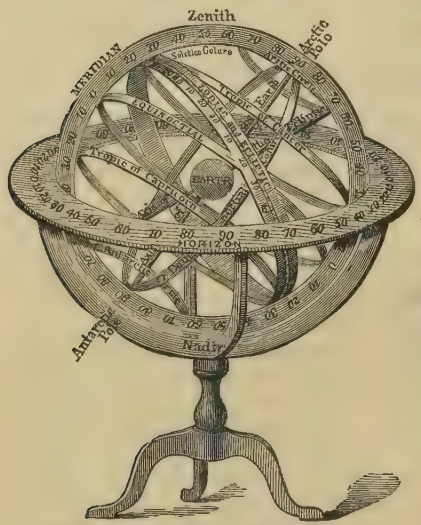
The upper divisions are employed to determine the distances of places on the earth, etc.; and the lower divisions are used for finding the beginning, end, and duration of twilight.

ECLIPTIC.—The *planes* of the orbits of all the planets pass through the centre of the sun.

It must be borne in mind that the plane of an orbit (in the sense here used) is only an imaginary surface, passing from one extremity, or side, of the orbit to the other. "If the rim of a drum-head be considered an orbit, its plane would be the parchment extended across it."

"Let us suppose the earth's orbit to be such a plane, cutting the sun through his centre, and extending out on every side to the heavens; the great circle so made would mark the line of the *ecliptic*, or the sun's apparent path through the heavens."

The *Zodiac* is an imaginary belt, extending eight degrees on each side of the ecliptic, quite around the heavens. It is 360 degrees in length, and these degrees are divided into 12 equal parts, called the *signs of the zodiac.*



Armillary Sphere.*

The signs of the zodiac have each a special name and symbol, and are arranged in a certain order, reckoning from west to east, called the *order of the signs.* See diagram, page 328.

The Colures are two great circles passing through the poles of the world; one of them passes through the equinoctial points, Aries and Libra; the other through the solstitial points, Cancer and Capricorn: hence, they are called the *equinoctial* and *solstitial* colures. They divide the ecliptic into four equal parts, and mark the four seasons of the year.

The Wooden Horizon, circumscribing the artificial globe, represents the rational horizon on the real globe. This horizon is divided into several concentric circles. The first, or innermost of these is marked *amplitude*, and is numbered from the east and west points, toward the north and south, to show the distance of any object from the east or west point of the horizon. The second, marked *azimuth*, is numbered from the north and south points, toward the east and west, to show the distance of any object from the north or south point of the horizon. The third contains the *points of the compass*, divided into half and quarter points; the degrees answering to which are to be found in the azimuth circle. The fourth circle contains the *signs of the zodiac*, with the character appropriated to each sign. The fifth contains the *degrees of the signs*, each sign comprehending 30°. The sixth contains the *days of the month*, answering to each degree of the sun's place in the ecliptic. The seventh contains the *names of the twelve calendar months.*

* The *armillary sphere* is an artificial sphere composed of a number of circles of the mundane sphere, put together in their natural order, to assist in giving a just conception of the constitution of the heavens, and the motions of the celestial bodies.—*Encyclopedia.*

RULES FOR SOLVING PROBLEMS ON THE TERRESTRIAL GLOBE.

PROBLEM I.

TO FIND THE LATITUDE OF ANY GIVEN PLACE.

Rule.—Bring the given place to the brass meridian; the degree directly above the place denotes the latitude. If the place is north of the equator, the latitude is north; if it is south of this circle, the latitude is south.

PROBLEM II.

TO FIND ALL THOSE PLACES WHICH HAVE THE SAME LATITUDE AS ANY GIVEN PLACE.

Rule.—Bring the given place to the brass meridian, and observe its latitude; turn the globe round, and all places passing under the observed latitude are those required.

PROBLEM III.

TO FIND THE DIFFERENCE OF LATITUDE OF ANY TWO PLACES.

Rule.—Find the latitude of each of the given places (by Problem I.); then, if the places are both on the same side of the equator, take the difference of their latitudes; but if they are on opposite sides, take the sum.

PROBLEM IV.

TO FIND THE LONGITUDE OF A PLACE.

Rule.—Bring the given place to the brass meridian, and the degree of the equator cut by the brass meridian is the longitude. If the figures increase toward the right hand, the longitude is east; if toward the left, west.

PROBLEM V.

TO FIND ALL THOSE PLACES THAT HAVE THE SAME LONGITUDE AS A GIVEN PLACE.

Rule.—Bring the given place to the brass meridian; then all places under the same edge of the meridian from pole to pole have the same longitude.

REMARK.—The inhabitants of all places having the same longitude have sunrise, noon, etc., at the same moment.

PROBLEM VI.

TO FIND THE DIFFERENCE OF LONGITUDE OF ANY TWO PLACES.

Rule.—Find the longitude of each of the given places (by Problem IV.); then, if the places are both on the same side of the first meridian, take the difference of their longitudes; but if they are on opposite sides, take the sum. If the sum, in the latter case, exceeds 180°, subtract it from 360°.

PROBLEM VII.

THE LONGITUDE AND LATITUDE OF ANY PLACE BEING GIVEN, TO FIND THAT PLACE.

Rule.—Find the given longitude on the equator and bring it to the brass meridian; then under the given latitude, as marked on the brass meridian, will be found the place required.

PROBLEM VIII.

TO FIND THE DISTANCE BETWEEN ANY TWO PLACES.

Rule.—Lay the graduated edge of the quadrant of altitude over both places; the degrees on the quadrant comprehended between the two places multiplied by 60 will give their distance, in geographical miles, or, multiplied by 69¼ in English miles.

PROBLEM IX.

TO FIND THE ANTŒCI, PERIŒCI, AND ANTIPODES TO THE INHABITANTS OF ANY PLACE.

Definitions.—*Antœci* are those who live under the same meridian, but on opposite sides of the equator, and equally distant from it:—*Periœci* are those who live on the same parallel of latitude, but under opposite meridians:—*Antipodes* are those who live in opposite hemispheres, are equally distant from the equator, and are also under opposite meridians. All these may be shown at once on the globe by the following

Rule.—Bring the poles of the globe into the horizon, and the given place to the eastern part of that circle; then, if the given place be in north latitude, observe, on the amplitude circle, how many degrees it is north of the eastern point of the horizon: the same number of degrees southward of the eastern point will show the *Antœci;* an equal number of degrees, counted from the west point of the horizon toward the north, will show the *Periœci;* and the same number of degrees, counted toward the south from the west, will point out the *Antipodes.* The same rule will apply if the given place be in south latitude, by reading south for north, and *vice versa.*

PROBLEM X.

THE HOUR AT ANY PLACE BEING GIVEN, TO FIND WHAT HOUR IT IS IN ANY OTHER PLACE

Rule.—Bring the place at which the hour is given to the meridian, and set the index to the given hour; then turn the globe till the other place comes to the meridian, and the index will show the required time.

PROBLEM XI.

TO FIND THE SUN'S PLACE IN THE ECLIPTIC FOR ANY GIVEN DAY.

Rule.—Find the given day in the circle of months on the horizon, against which, in the circle of signs, will be seen the degree of the sign in which the sun is for that day. The same sign and degree in the ecliptic is the sun's place required.

PROBLEM XII.

TO FIND THE SUN'S DECLINATION ON ANY GIVEN DAY, AND ALL THE PLACES TO WHICH HE WILL BE VERTICAL ON THAT DAY.

Rule.—Find the sun's place in the ecliptic (by Prob. XI.), and bring it to the brass meridian; the degree which stands immediately over the sun's place is his declination. Turn the globe on its axis, and all the places that pass under that degree will have the sun vertical on the given day.

PROBLEM XIII.

THE DAY OF THE MONTH AND HOUR OF THE DAY AT ANY PLACE BEING GIVEN, TO FIND WHERE THE SUN IS THEN VERTICAL.

Rule.—Find the sun's declination (by Prob. XII.), and mark it on the brass meridian; then bring the given place to the meridian, and set the index to the given hour. Turn the globe till the index points to twelve at noon, and the place exactly under the sun's declination on the brass meridian will have the sun vertical at the given time.

PROBLEM XIV.

TO RECTIFY THE GLOBE FOR THE LATITUDE OF ANY GIVEN PLACE.

Rule.—Elevate the north or south pole, according as the latitude is north or south, so many degrees above the horizon as are equal to the latitude of the given place.

PROBLEM XV.

TO FIND AT WHAT HOUR THE SUN RISES AND SETS, AND THE LENGTH OF DAY AND NIGHT, AT ANY PLACE NOT IN THE FRIGID ZONES.

Rule.—Rectify the globe for the latitude of the given place; find the sun's place in the ecliptic, bring it to the brass meridian, and set the index to twelve; bring the sun's place to the western edge of the horizon, and the index will show the time of his setting, which doubled, will give the length of the day; turn the globe till the sun's place comes to the eastern edge of the horizon, and the index will point out the time of his rising, which, doubled, will give the length of the night.

PROBLEM XVI.

THE DAY OF THE MONTH AND THE HOUR OF THE DAY AT ANY PLACE BEING GIVEN, TO FIND ALL THOSE PLACES OF THE EARTH WHERE THE SUN IS THEN RISING, THOSE PLACES WHERE THE SUN IS SETTING, THOSE WHERE IT IS NOON, AND THOSE WHERE IT IS MIDNIGHT, THOSE THAT HAVE MORNING TWILIGHT, AND THOSE THAT HAVE EVENING TWILIGHT.

Rule.—Find the place to which the sun is vertical at the given time (by Prob. XIII.) bring that place to the meridian, and elevate the pole till its altitude is equal to the sun's declination. Then to all places just along the *western* edge of the horizon, the sun is *rising;* to those along the *eastern* edge, he is *setting;* to those under that part of the brass meridian, which is *above* the horizon, it is *noon;* to those immediately under that part of the brass meridian which is *below* the horizon, it is *midnight;* those places which are below, but within eighteen degrees of, the western edge of the horizon, have morning twilight, and those below the eastern horizon, but within eighteen degrees of it, have evening twilight.

PROBLEM XVII.

TO FIND THE SUN'S MERIDIAN ALTITUDE AT ANY PLACE ON ANY GIVEN DAY.

Rule.—Rectify the globe for the latitude of the place. Find the sun's place in the ecliptic, and bring it to the brass meridian; the number of degrees on the meridian between the horizon and the sun's place is the altitude required.

PROBLEM XVIII.

THE TIME OF A LUNAR ECLIPSE BEING GIVEN, TO FIND ALL THOSE PLACES TO WHICH IT IS VISIBLE.

Rule.—Find the place to which the sun is vertical at the given time; bring it to the meridian, and elevate the pole for the latitude of that place; then the eclipse will be visible at all those places which are below the horizon. If the antipodes of the place to which the sun is vertical be brought into the zenith, the eclipse will be visible to all the places *then* above the horizon. The antipodes may be brought into the zenith by merely elevating the opposite pole as many degrees as are equal to the sun's declination, and turning the globe half round on its axis.

GLOSSARY.

ATMOSPHERE, from the Greek *atmos*, vapor, *sphæra*, a sphere.
ANDES, from the Peruvian word *anti*, copper.
AFGHANISTAN, Afghan Land.
ANGOSTURA, a narrow pass.
ANALEMMA, a narrow strip of paper, which is pasted on the Artificial Globe, and is divided into months, and days of the months, corresponding to the sun's declination for every day in the year.
ANIMALCULE, a diminutive animal, too small to be seen by the unassisted eye.
ARCHIPELAGO, from the Greek *arche*, chief, and *pelagos*, sea.
ARGENTINE, from the Latin *argentum*, silver.
ARCTIC, from the Latin *arctos*, "the Bear," a Northern constellation.
ANTARCTIC, from the Latin *anti*, opposite.
ATLAS, a collection of maps in a volume.
AUSTRALIA, from the Latin *australis*, belonging or relating to the South.
BARBUDA, having a long beard; and BARBADOES, a full grown bearded man.
BATON ROUGE, a red stick.
BAYOU, probably from the French *boyau*, a channel; in Louisiana this term is generally applied to creeks, or small streams.
BUENA VISTA, good or beautiful view.
BUENOS AYRES, good air.
BUENA ESPERANZA, good hope.
BUENAVENTURA, good fortune.
BRAHMAPUTRA, the son of Brahma.
BAB-EL-MANDEB, the gate of tears.
BOMBAY, from the Portuguese *bom*, good, *bahia*, harbor.
BELLEISLE, beautiful island.
BUOYS, pieces of wood, cork, or hollow metallic substance, moored and floating on the water. They serve to mark the channels through which it is safe to steer, and to point out dangers to be avoided.
CAPE, from the Latin *caput*, the head.
CARAVAN, from the Persian *kervan*, a trader or dealer.
CARDINAL, from the Latin *cardinalis*, chief.
CASCADE, from the Latin *cato*, down, and *rasso*, I dash.
CALCUTTA, or Kallee Ghattah, i. e., the landing place of the goddess of Time.
CAMPECHE, logwood.
COMMERCE, the trading with the people of different countries, which is carried on chiefly by means of ships, steamers, etc.
CORDILLERAS, a chain of mountains.
CORRIENTES, currents of water.
CONTINENT, from the Latin *con*, together, and *teneo*, I hold.
COPENHAGEN, merchant's haven, or harbor.
CRATER, from the Latin *crater*, a cup.

CINQUE PORTS, five ports in the south of England vested with certain privileges by royal charter. The present ports so privileged are Sandwich, Dover, Hythe, Romney, and Hastings.

COASTING TRADE, the trade carried on by sea, between two or more ports of the same country.

CIRCUMFERENCE, from the Latin *circum*, around, and *fero*, I bear.

CONSTANTINOPLE, from the Latin *Constantinopolis*, i. e., the city of Constantine.

DIAMETER, from the Greek *dia*, through, and *metron*, measure.

DELTA, the Greek letter Δ.

DETROIT, (from the French), a strait.

ELECTRICITY, from the Greek *elektron*, amber, the substance in which this property was first observed.

EQUATOR, from the Latin *equus*, equal.

EQUINOCTIAL, from the Latin *equus*, equal, and *nox*, night.

EXPORTS, commodities or goods actually conveyed from one country or state to another, in traffic.

FOND DU LAC, bottom of the Lake.

FRIGID, from the Latin *frigus*, cold.

GRACIAS A DIOS, thanks to God.

GEOGRAPHY, derived from the Greek *ge*, the earth, and *grapho*, to describe.

GEOLOGY, from the Greek *ge*, the earth, and *logos*, a discourse.

GEYSERS, from an Icelandic word, signifying raging or roaring.

HAVEN, HARBOR, PORT, ROAD, or ROADSTEAD.—These terms are applied to small portions of water communicating with the sea, or with a navigable river, or lake. A haven, harbor, or port, is a place where ships may lie in permanent security. A road, or roadstead, is a place which affords anchorage at a short distance from land, with shelter from certain winds.

HEMISPHERE, from the Greek *hemisus*, half, and *sphæra*, a sphere.

HORIZON, from the Greek *horizo*, to bound or to limit.

IMPORTS, articles imported or brought into a country from another country.

ISLAND, from the French *isle* and *land*, which signifies land-in-water land.

HONG-KONG, red harbor.

ISTHMUS, from the Greek *isthmos*, the neck.

ISOTHERMAL, from the Greek *isos*, equal, and *thermos*, heat.

LATITUDE, from the Latin *latitudo*, breadth.

LONGITUDE, from the Latin *longitudo*, length.

LAGOON, a body of stagnant water or marsh.

MERIDIAN, from the Latin *meridies*, mid-day.

MANITOWOC, river of spirits.

MOROCCO, the extreme west.

MALDIVES, the thousand isles.

MEDINA, an Arabic word signifying city.

METEOROLOGY, from the Greek *meteoros*, sublime, lofty, and *logos*, a discourse.

MONSOON, from the Persian *mousun*, alternation of season.

OBLATE, from the Latin *ob* in front, and *latus*, extended.

PATAGONIA, a large clumsy foot.

PELAGIC, from the Latin *pelagus*, the sea.

PARALLEL, from the Greek *para*, by, and *allelon*, each other.

PENINSULA, from the Latin *pene*, almost, and *insula*, an isle.

PROMONTORY, from the Latin *pro*, forward, and *mons*, mountain.

POLYNESIA, from the Greek *polys*, many, and *nesos*, isle.

PHILADELPHIA, from the Greek *philos*, a lover or friend, and adelphos, a brother.

PRAIRIE (from the French), a meadow.
PRAIRIE DU CHIEN, dog prairie.
PRAIRIE DU SAC, bag prairie.
POPOCATEPETL, smoking mountain.
RIO GRANDE DEL NORTE, great river of the north.
RIO NEGRO, black river.
RIO DE LA PLATA, river of the silver.
ROAD, ground appropriated for travel, forming a communication between one city or place, and another.
RAILROAD, a road, or way, on which iron rails are laid for wheels to run on.
SAHARA, from the Arabic, signifies sterile, barren.
SAULT SAINTE MARIE, Saint Mary's Leap.
SIERRA, a Spanish word, signifying saw. It is sometimes used in Geography to designate a ridge, or chain of mountains.
SIERRA MADRE, mother chain of mountains.
SIERRA MORENA, dark brown chain of mountains.
SIERRA NEVADA, snow chain of mountains.
SPHEROID, from the Greek *sphæra*, a sphere, and *eidos*, like.
SOLSTITIAL, from the Latin *sol*, the sun, and *sto*, I stand.
SOUDAN, the land of the blacks.
TERRA DEL FUEGO, the land of fire.
TORRID, from the Latin *torreo*, to roast.
TROPIC, from the Greek *trope*, a turning.
THERMOMETER, from the Greek *therme*, heat, and *metron*, a measure. The thermometer is a small tube of glass with a bulb at one end, which, together with a part of the tube, is filled with mercury. This mercury expands or contracts according to the degree of heat of the surrounding air; and this movement is measured by degrees or divisions on an index.
The index is arranged according to different scales; that of Fahrenheit is the one adopted in this country. Its zero, 0, begins at a degree of cold produced by mixing salt and snow. Water freezes at 32°, and boils (the barometer being at 30 inches) at 212°.
The Centigrade thermometer, used generally in Continental Europe, is divided, as its name implies, into 100°, from the point where water freezes (0°) to the point where it boils (100°).
VALPARAISO, the vale of Paradise.
VERTICAL, from the Latin *vertex*, the top.
VOLCANO, from the Latin *vulcanus*, the god of fire.
ZOOLOGY, from the Greek *zoon*, an animal, and *logos*, a discourse.
ZOOPHYTE, from the Greek *zoon*, an animal, and *phyton*, a plant.
ZONE, from the Greek *zona*, a girdle.

In compound names of places in Norway, Sweden, and Denmark, *borg*, or *burg*, means town or castle; *stad*, *sted*, *wig*, *wick*, or *vick*, town; *kiobing*, *köben*, or *köping*, market or merchants' place; *fiord*, or *ford*, firth or bay; *sund*, or *belt*, strait; *holm*, island; *se*, or *see*, island in the sea; *mark*, region, or country; *fyen*, fine; *la*, low; *heim*, home, or residence; *fel*, or *feld*, field, or mountain; *ness*, or *naze*, cape.

In compound names of places in Russia, *gorod* means town; *more*, sea; *ostrov*, island; *veliki*, great; *niznei*, or *nijni*, lower; *nov*, *nova*, or *novaia*, new.

In compound names of places in Turkey and Greece, *ple*, *poli*, or *polis* means city or town; *ili*, country; *shehr*, town; *grad*, city; *serai*, palace; *bazar*, market; *yeni*, *novi*,

neo, or *nea*, new; *kastro* or *kastron*, a castle; *potamo*, a river; *nesos* or *nisi*, an island; *pylos*, a pass between mountains; and *anti*, opposite.

In compound names of places in Italy, *monte* signifies mountain; *ponte*, bridge; *capo*, cape; *porto*, port; *citta* or *civita*, town or city; *campo*, field; *castro*, castle; *vecchio*, old; *nuovo*, new; and *santo* or *san*, saint.

In French compound names of places, *bourg* or *ville* means city or town; *château* or *châtel*, castle; *mont*, mountain; *terre*, land; *roc* or *roche*, rock; *fort*, fort; *pont*, bridge; *neuf* or *neuve*, new; *blanc* or *blanche*, white; *noir*, black; *beau*, *bel*, or *belle*, fine; and *saint* or *sainte*, saint.

In compound names of places in Spain and Portugal, *ciudad* means city; *villa*, village; *puerto*, port; *puenta*, bridge; *torre*, tower; *fuente*, spring or stream; *rico*, rich; *rio*, river; *bueno*, good; *monte*, mountain; *nuevo*, new; *alegre*, merry, joyful; *cabo*, cape; and *bahia*, bay.

In compound names of places in Holland, *mond* signifies mouth of a river; *hol*, hollow or low; *groen*, green; *dam* or *dyc*, dike; *stadt*, town; *zee*, sea; and *meer*, lake.

In German compound names of places, *berg* signifies mountain or hill; *gebirge*, range of mountains; *thal*, valley; *wald*, forest; *see*, lake; *brunn*, spring; *brunnen*, springs; *bad*, bath; *baden*, baths; *bruck*, bridge; *gau*, province or district; *stadt*, city or town; *dorf*, village; *burg*, castle; *weiss*, white; *schwarz*, black; *gross*, great; *neu*, new; *alt*, old; *ober*, upper; *nieder*, lower; *unter*, between; *fels*, rock; *stein*, stone; *feld*, field; *bach*, brook; *heim*, dwelling or home; and *haus*, house.

In compound names of places in Scotland, *ben* or *fell* signifies mountain; *law*, separate hill; *cairn*, heap of stones or stony hill; *craig*, rocky hill; *strath*, large valley; *glen*, small valley; *blair*, field or plain; *inver* or *aber*, mouth of a river; *kil*, *cell*, or *kirk*, church; and *inch*, island.

In compound names of places in England, *borough* or *ton* signifies town; *ham*, village; *minster*, *kirk*, or *eccles*, church; *chester* or *caer*, fort; *don* or *dun*, hill; *pen*, height; *ness*, cape; *ley*, meadow; *mouth* or *aber*, mouth of a river; *wick* or *wich*, bend of a river; and *burn*, water.

In compound names of places in Ireland, *bally* means town or village; *kil*, a church or a wood; *ben* or *slieve*, mountain; *knock*, hill; *carrick*, rock; and *ennis*, *innis*, or *inch*, island.

In Chinese compound names of places, *foo*, *fou*, or *fu*, denotes a town of the first class; *chou* or *choo*, one of the second; and *hien* or *heen*, one of the third. *Pe* signifies north; *nan*, south; *toong*, *toung*, or *tung*, east; *see*, west; *shan* or *chan*, mountain; *shang*, supreme; *hai*, port or sea; *king*, court or capital; *ho*, river; *kiang*, river; *hoang*, yellow; and *yang-tse*, blue.

In Hindoo compound names of places, *abad* means residence or town; *nagur*, *nagore*, or *nugger*, unfortified city; *pur*, *pore*, or *poor*, a city or town; *giri*, or *gherry*, a mountain or hill; *ghaut*, a mountain pass; *gur* or *ghur*, a fort or castle, or a fortress on a hill; *stan*, country, land; *ab*, water; *maha*, great; *nil*, blue; and *dive*, island.

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